In the past two years the Audit Inspectorate mounted a number of projects which involved "across the board" research of topics thought to be worthy of comparative study. This report deals with one such study and it is hoped that its publication will lead to consideration of the points which have emerged. These are not intended as definitive statements but rather as audit views of matters deserving attention.

This study has been directed by Mr W H Werry of the District Audit Service and carried out by Mr S M Bradburn, FCIOB, of NBA Construction Consultants.

The Audit Inspectorate wishes to acknowledge the considerable assistance afforded by the officers and members of the local authorities involved in the study, the field staff of the District Audit Service and those bodies and individuals acknowledged in the report.

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DLO MAINTENANCE PROCEDURES

Part One Summary Report

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September 1982

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PART ONE - SUMMARY

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1. INTRODUCTION

1.1 STUDY OBJECTIVES

In view of the developments that have taken place over a number of years in the field of direct labour, culminating in the legislation affecting direct labour organisations (DLOs) in 1980, the Chief Inspector of Audit commissioned the National Building Agency, and after its closure, NBA Construction Consultants, to undertake a study of building maintenance DLOs which had the following objectives:

- Study current practices for the organisation, management and operational procedures of building maintenance by direct labour in a sample of local authorities.

- Enquire into changes in organisation and procedures proposed or under way to satisfy the requirements of the Local Government Planning and Land Act 1980 (the Act).

- To identify good working practices.

- To publish guidelines on recommended principles and practice to meet the varying situations for maintenance by direct labour.

The study was undertaken by means of an intensive series of interviews with officers in each of the sample authorities, during which a certain amount of quantitative information and examples of documentation were also obtained. Following this fieldwork, which culminated in each case with the production of an individual report on each DLO studied, a comprehensive report was produced for the Chief Inspector of Audit, containing a detailed examination of current working methods and procedures and making recommendations on good practice for the guidance of officers, auditors and Members closely concerned with DLO affairs.

The principal findings and recommendations arising from the study are summarised as Part One of this document, for the benefit of Members, officers and others who do not require access to the main body of the report, which is contained in Part Two.

It should be noted that the report's findings and recommendations relate to the maintenance of public buildings and housing and not to any other DLO activities. It is not claimed that the recommendations will necessarily be universally applicable, but it is hoped to provide guidelines for district audit staff and for officers and members coming to grips with the problems of managing building maintenance DLOs in a markedly different environment from that obtaining a few years ago. It is recognised that the report comes at a time of much change, in terms of the legislative framework and as a result of the economic recession which is affecting the construction industry severely, and it can only represent a picture of part of the current scene; but it aims to indicate trends and to point in the recommended directions of future development. The report is based on the study sample as well as the general experience of the consultants involved. However, in view of the limitations of the small sample employed, a number of the issues raised may justify a wider study of some of the subjects concerned.

1.2 THE SAMPLE OF DLOs IN THE STUDY

The aim was to obtain a reasonable cross-section in the sample of building maintenance DLOs and accordingly it comprised:

* Two metropolitan boroughs (MB)
* Two London boroughs (LB)
* Two district councils in urban areas)
* One district council in a rural area) (DC)
* One county council covering a predominantly rural area (CC)

Two of the local authorities had more than one DLO concerned with building maintenance and so the complete sample comprised ten DLOs.

It is not every organisation that is willing and able to submit itself to the detailed scrutiny entailed in the study. The sample was therefore to some extent self-selecting, in that it comprised only those authorities which responded positively to an invitation to participate, made by officials of the District Audit service on the basis of their knowledge and contacts in local authorities. Although there is no representation of the very large DLOs with more than a thousand operatives, it is not felt that this is a significant omission in terms of the aims of this report, and in the consultation phase prior to its finalisation, the advice and comment of managers of such DLOs was made available to the research team.

As a final note on the sample, it is re-emphasised that this report is concerned only with building maintenance DLOs. It does not deal with DLOs concerned with new construction schemes, major modernisation programmes, or highways and sewers construction and maintenance.

1.3 ACKNOWLEDGEMENTS

The study team wishes to acknowledge gratefully the assistance and advice provided by the officers and representatives of the following organisations, concerned in one way or another with the study:

* Department of Environment Audit Inspectorate
* Local Authorities in the sample
* Association of County Councils
* Association of Metropolitan Authorities
* Association of District Councils
* Chartered Institute of Public Finance and Accountancy
* Institution of Municipal Engineers
* Institute of Municipal Building Management
* District Auditors' Society
* Local Authorities Management Services and Computer Committee

Much helpful advice was also received in the consultation phase of the report from a number of individuals, in particular:

* J Basley, LAMSAC
* J M Edington, Borough Treasurer, Burnley Borough Council
* J Edwards, Director of Works, Sheffield City Council
* A H Elliot, County Buildings and Works Officer, Gwent C.C.
* J C Fuller, District Auditor, No 2 Audit District
* F Jackson, Acting Director, London Community Builders
* J Roe, Director of Housing, Bolton Metropolitan Borough Council
* W H Werry, Deputy District Auditor, No 8 Audit District, who also directed the project on behalf of the Chief Inspector of Audit.

It should be noted that inclusion of bodies or individuals in the above list does not imply their full and unqualified approval of the final content of this document in its published form.

1.4 STUDY TEAM

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The fieldwork took place between March and October 1981.

2. CONCLUSIONS AND SUMMARY OF GUIDELINES ON PRACTICE

2.1 CURRENT PRACTICES

The study, undertaken during 1981/82, occurred at a time when the Local Government, Planning and Land Act 1980 was causing many authorities to review the way in which their DLOs carried out building maintenance. Thus, in addition to the diversity in practice that would normally be expected because of variations among authorities in structure, geographical and demographic conditions and attitudes to direct labour, differences in progress and approach in accommodating the requirements of the Act were also found.

2.1.1 Types of DLO

Despite all these points of variation, it was possible to trace common threads so that three generic types of DLO could be defined and within each category there are certain common lines of approach and practice. The three types are: the in-house DLO (it undertakes work almost exclusively for the department within which it is located, generally housing); the works department DLO (a maintenance division of an independent works department); and the general property DLO (it is within a department that provides other services to its council and maintains buildings for other departments as well as those within the jurisdiction of its own department).

A works department DLO is more like an independent contractor to the council than the other types. It is likely to have its own committee and to undertake work for other authorities as well as its own. Large DLOs are more likely to be found in this form than the other types and they carry a wider range of trades. This type of DLO probably has the least difficulty in accommodating itself to the operating framework of the Act.

The in-house DLO is strongly client-orientated and is likely to be subject to strong pressures and influences from within the housing department. In the sample, the size of in-house DLO varied considerably (from 200 to 800 operatives and the number of trades represented varied correspondingly). In-house DLOs tend to have the most functions within their control.

The general property DLO, like the works department DLO, looks after a wide range of buildings, which may or may not include housing. The size of this DLO varies from small (100 operatives) to medium (350 operatives) and tends not to carry a wide range of trades.

2.1.2 Work undertaken

Apart from normal building maintenance work, some DLOs, usually works department and general property DLOs, carry out other activities for the council, for example, repair of school equipment, provision of stands and equipment for public events and work associated with elections. All DLOs provide other departments or the client side of their own department with technical and professional services in one form or another, such as building surveys and repair inspections, assistance in formulating maintenance budgets, supervision of contractors and professional advice on building maintenance issues.

2.1.3 Priorities and service standards

It is rare for a DLO to have the guidance of specific policies laid down by the council on priorities between the main categories of maintenance (responsive maintenance, planned maintenance, emergency service, repair of void properties, adaptations and improvements) and much is left to the initiative of the DLO manager to balance competing demands as best he can within his own resources. This often leads to criticisms of DLO performance which may well be unjustified because there are constraints beyond the DLO manager's control and clients may have unrealistic expectations. Similarly, service standards (response time and work quality) are rarely laid down although some DLOs set themselves targets for different types of repair. Again this lack of defined criteria for performance can lead to misunderstandings between the DLO and its clients.

2.1.4 Workloads and budgets

Whereas in the past DLOs have had the prospect of a fairly settled workload once client departments had decided on their maintenance budgets for the year, since implementation of the Act, and the subsequent competition regulations, DLOs have been operating in a much more uncertain environment, not knowing at the start of the financial year whether they will have enough work to employ the workforce fully. Also in previous years DLOs have been in a strong position to influence or even completely control maintenance budgets, but this is an area of major change since the Act.

2.1.5 Manpower policies

Hitherto most DLOs have operated within a no-redundancy policy laid down by their councils, but the financial cut-backs in recent years and the workload uncertainties are causing this policy to be eased or at least reconsidered in many cases. However some DLOs are still attempting to meet the social obligations of their councils in areas of high unemployment by keeping up their apprentice intake levels where possible. The proportion of apprentices in the study sample varied from one percent to 20 percent.

A DLO can rarely offer a career path, although the largest DLO in the sample does so. Training does not appear to be regarded as a priority (other than trade training for apprentices) and this may be part of the reason for the frequently met complaint about the quality of first-line supervision, a level of responsibility which is in many ways the key to successful DLO operations.

The Institute of Municipal Building Management has a keen interest in mid-career training for DLO staff and is prepared to mount suitable courses in response to evidence of a firm demand.

National agreements are such that multi-trade working by maintenance operatives, after the manner of some of the smaller maintenance contractors, is not feasible under present circumstances, although in some cases a limited amount of crossing of trade boundaries by operatives does occur.

2.1.6 Structure

There can be no standard form of organisation for DLOs, neither in respect of their location in the departmental structure, nor in their internal structure, and there are in fact wide variations depending on individual circumstances and functions. An urban housing DLO operates in a completely different situation, providing a different type of service, from a county council DLO covering a wide area and range of building types. There are also significant differences in approach to restructuring to meet the requirements of the Act, from major revisions to structure, including the relocation of some officers, to no changes at all in the first instance, pending a decision in the light of experience as to whether any were necessary. The question of the client/contractor relationship is discussed in Section 2.2.

Regarding internal structure, no DLO is in sole control of all functions affecting its operations. Many are outside the DLO itself but within its parent department, and some are in another department. The sample did little to indicate consistent patterns of control of the various functions in relation to DLO typology.

2.1.7 Staffing

The level of the DLO manager (the officer whose sole responsibility is for direct labour operations) varies from second tier to fifth tier, third tier being the most frequent level in the sample.

The quality of first-line supervision is regarded by some as a problem which owes much to the way in which the industry operates as far as career progression is concerned, but this is a handicap which appears to apply at all levels: there is little or no formal training for DLO management. (See also Section 2.1.5).

There is no ideal figure for supervision ratios, which vary from about 11:1 to 18:1, reflecting such variable factors as number of trades, geographical spread of work, variety and balance of work, the service given, the quality of the workforce and the repair ordering procedures. Owing to the location of a number of functions outside the DLO it is not possible to obtain a clear picture of the numbers of other overhead staff in relation to operatives employed.

2.1.8 Depots

Most DLOs operate with depots inherited from the authorities which existed before the 1974 local government re-organisation (1965 for London Boroughs) and there has been little investment in new depots since then. Whereas some DLO managers are fairly satisfied with their depot facilities, others regarded them as cramped, poorly located and not conducive to efficient operations.

The operatives based at depots work within fairly rigid boundaries defined by the location of buildings served from the depots. In the case of housing, the depot boundaries do not necessarily coincide with boundaries of housing management areas, even with in-house housing department DLOs, though there is a movement in this direction where it is feasible with existing facilities or when new depots are being considered.

The average number of operatives based at a depot varies from about 20 to 160 but the figure depends mainly on the number of depots a DLO of a given size has, rather than any deliberate decision.

2.1.9 Work initiation

There are two basic approaches to work initiation for responsive maintenance, both for housing and other buildings. The request for a repair comes either direct to the DLO from the tenant or building user, or it is channelled through the client department or a technical control unit acting on its behalf. Each method has advantages and disadvantages which need to be considered in relation to the type of service the DLO is expected to give.

One of the most significant stages in the work initiation process is the translation of the repair request into a technical description suitable for a works order. Practice varies on whether this is done by the client or DLO and it is sometimes an area of confusion or disagreement within an authority as to who ought to be responsible for it. Under the client/contractor relationship this function should be the client's responsibility otherwise the client is abrogating his right to define the work required and has to pay for whatever the contractor (DLO) claims.

Planned maintenance and the repair of empty houses prior to reletting is usually subject to specification and scheduling with a prior estimate before an order is given to the DLO.

Most authorities monitor the numbers of works orders issued, analysed by various categories such as depot, trade, and priority rating, as a means of assessing the DLO workload or client commitment, and the service provided by the DLO. Hitherto there has been little analysis of commitment and workload in time (man hours) or money terms, but some DLOs are now moving in this direction when computer facilities permit; the exercise is not practicable otherwise.

Few authorities have evolved a system (in the absence of computer monitoring of the progress of orders) for progress-chasing of orders which are somewhere in the pipeline between request and completion. Particularly for housing repairs, the scale of the problem is too large for a satisfactory manual solution.

2.1.10 Pre- and post-inspection

Pre-inspection rates for responsive maintenance vary considerably and are affected by a number of factors such as the type and variety of repairs, the types of building involved, and the requirements of bonus schemes. The main responsibility is found in either the client department (or technical control unit) or the DLO, depending on a number of factors. When necessary for proper definition of the work, it should be a client function.

Post-inspection, prior to the Act, was mainly carried out by DLO supervisors, but with the development of client/contractor roles, some inspections are now made on behalf of the client department, by its own inspectors or those in a technical control unit. Post-inspection is often not recorded, or inspections are made during the course of the work, and its extent cannot therefore be accurately quantified. It is generally thought to be less than the ten percent of responsive maintenance jobs that is sometimes regarded as a target. The inspection requirements of different types of maintenance work vary and it is usually necessary to inspect all jobs of significant size before and after the work. This would encompass most planned maintenance improvements and adaptations and the repair of housing voids, all work which requires proper specification and estimates before it is instructed.

2.1.11 Work planning and execution

Most authorities would admit to having inadequate records to act as a property data base for both planned maintenance and the analysis of responsive repairs; the reasons are lack of resources to set up and maintain proper record systems and the relative lack of glamour that has hitherto attached to maintenance compared with capital works. However, the value of a good property data base is now increasingly recognised, and some are trying to find resources to take on this work. The area where records appear to be already quite comprehensive is in the records used as the basis for planning and assessing bonus targets for painting work.

Programmed maintenance, comprising regular planned maintenance, improvements, adaptations and significant repair schemes which generally appear as individual items in the annual estimates, can be planned throughout the year to fit in with the peaks and troughs of responsive maintenance workloads, subject to certain requirements of clients and the uncertainty now introduced by the competition requirements.

Any planning for responsive maintenance can only be ad-hoc if repairs are dealt with more or less in the order in which they are received. This is the traditional method, and the day-to-day organisation of work recognising the potential increase in efficiency of a more strictly planned approach to responsive maintenance, which involves the batching of orders by a team of tradesmen operating from a mobile base with imprest stores in each area. Most such schemes are still in the experimental stage and the results have yet to be evaluated. Changes in working procedures are called for, but the benefits to both the authority and the operatives should be considerable.

Most authorities provide some form of out-of-hours emergency service though their DLOs but the extent varies as does the way in which the service is organised. The service is often directed mainly towards housing tenants but not exclusively where DLOs are responsible for maintaining schools, social services and other establishments. Some authorities experience abuse of the system by tenants trying to jump the queue for repairs which should be dealt with through the normal repair ordering procedures. The trades supplying the emergency service are usually plumbers, electricians and joiners, under the supervision of a duty foreman, all volunteers working on a rota basis and receiving overtime and/or standby payments. Accounting systems are such that the full cost of emergency arrangements is not generally known. Some DLOs make premium charges for emergency work; the sample was not large enough to indicate whether these are in the majority.

2.1.12 Transport and plant

The requirement for transport, and the composition of DLO vehicle fleets, varies widely with the type and location of work. The requirements of a rural district council DLO responsible for all types of building are very different from those of a housing DLO working in a compact urban environment.

Although most DLOs have day-to-day control over vehicle usage and some have vehicles permanently allocated to them, or in their ownership, all are dependent on others outside the DLO, perhaps in the same department, for the purchase and maintenance of vehicles. This is consistent with the need for a local authority to have an overall policy for transport in order to make best use of this asset, but is at times at variance with a DLO manager's need to operate flexibly in the new trading environment.

For maintenance work, which mostly consists of a large number of small jobs, authorities generally find it most convenient to recover transport costs through the overheads, though some charge it to larger jobs on a time basis. Few DLO managers are supplied with regular information on how effectively their vehicles are being used.

The plant owned by DLOs is usually of a minor nature: ladders, trestles, small tools and woodworking machinery. DLOs in departments which also undertake capital works sometimes have access to scaffolding, mixers, skips and mechanical shovels; otherwise plant of this heavier nature is hired from private firms when necessary. The cost of small plant (mainly repairs and replacement) is recovered through the overheads.

2.1.13 Stores and purchasing

Stores are either fully controlled by the DLO, the preferable situation if stores are regarded as DLO assets, or are the responsibility of the DLO's parent department. Some DLOs, usually those not concerned with housing maintenance, operate from one central stores location: others have no central stores but each area depot has its own stores; or, the most usual situation, a central stores serves a number of area stores. This last is a more satisfactory arrangement for the rationalisation of stock holdings and if an imprest system is operated the re-ordering by area stores is automatic. Some DLOs issue certain mobile tradesmen, usually plumbers, heating fitters and electricians, with imprest stores and vans as mobile bases.

The commonly used quantitative measure of efficiency of the stores operation is stock turn and in the sample this varied from 1.8 to 4.2. However this figure cannot be regarded in isolation because some DLOs may need to retain items of slow moving stock in order to provide an adequate maintenance service for the particular types of building for which they are responsible. Another rough index of stores efficiency is the number of issues per member of stores staff. This varied between 1300 and 7500 issues per person per year but the variations may partly reflect differences in issuing procedures.

Most authorities operate a computer system for stores control but some stores have manual systems in parallel, either as a check or because the computer information is not available quickly enough. Practice on stock checking varies between an annual check and continuous stocktaking. Materials are charged to individual jobs but the cost of the stores function is more commonly recovered in the labour overheads than as an oncost on the materials charge.

Authorities who employ skilled storemen find this beneficial, because the not unusual practice of engaging as storemen former DLO operatives who have become incapacitated for full manual work, whilst being beneficial in social terms, can be costly in terms of stores efficiency unless they have received adequate training.

Some authorities (a few) allow their stores to be used by contractors carrying out maintenance work for the council. In others the building maintenance DLO shares the stores with other DLOs.

Purchasing is usually carried out by the DLO or its parent department, but in some cases is done more centrally on behalf of the authority as a whole. Materials are bought mainly from suppliers chosen by an annual tender or following quotations on individual occasions. Some DLOs can make small direct purchases with authority at depot level, a useful benefit of flexibility, but in others a more rigid procedure has to be followed for such purchases. Consortium purchase for maintenance items appears to be rarely used.

2.1.14 Estimating and charging

The Act has necessitated the setting up of a new estimating framework for DLOs, discussed in more detail in Section 2.2.3. Estimates now have to be prepared for work where none was necessary hitherto. Authorities have responded to this with varying degrees of urgency; most are now developing schedules of rates. The resource implications appear to be significant though many authorities are trying not to increase staff complements to deal with the situation.

Prior to publication of the March 1982 Competition Regulations, authorities appeared to be aiming to use a schedule of rates as a basis for charging in the longer term, say within two or three years of April 1981. In the meantime DLO charges were to be made by means of a bulk estimate in some cases, and on the basis of dayworks or productive standard hours in other cases. Bulk estimates were seen very much as a stopgap measure. However the tendering requirements for maintenance jobs under £10,000 has accelerated the move towards schedules of rates.

The proposed hourly charge rates (dayworks or productive standard hours) during 1981/82 varied between about £5 and £11 in the sample; some DLOs have a uniform charge for all trades, others vary the charge with trade.

2.1.15 Financial management information

The majority of DLOs are having to make major adaptations to their financial information systems so that they are suitable for a trading situation. The initial steps are to produce information on an income and expenditure basis but most DLOs have so far made only very tentative steps towards commitment accounting and management cost centre accounting (cost centres such as trade group, depot, joinery mill). Much emphasis seems to be placed on individual job costing which may not be the most appropriate direction of effort if improved DLO efficiency is the aim. This appears to be symptomatic of the difficulty some DLO and finance department staff are experiencing in adapting to the concept of the DLO as a trading concern. Of course some DLOs do not have this problem because their officers have been accustomed to thinking in such terms for several years and the post of DLO cost accountant is not a new one.

In assessing the progress DLOs and finance departments are making in changing their accounting systems, it has to be remembered that their first priority must be the production of the accounting information required by the Act and information suitable for DLO managers has regrettably to be a second priority. These changes are being made at a time when there is a severe squeeze on staff resources and in some cases resistance to technological change by staff unions.

2.1.16 DLO overheads

It is not easy to analyse DLO overheads on a comparative basis because of differences in definition. It is even risky to make comparisons between total overhead rates as a percentage of labour base because of differences between authorities on the items that are included; for example transport is a prime cost in some cases, but an overhead in others. Bearing in mind these reservations, it can be stated that in the sample the initially estimated overheads varied from about 90 to 160 percent of the labour base. The largest single element of overheads is direct employment costs. Central administration charges, often a bone of contention between DLO managers and finance departments, appear to amount generally to no more than ten percent of overheads. Supervision and administration generally range between 30 and 45 percent of overheads.

Whereas overhead estimates are applicable for the complete financial year, during the first year of operation of the Act most DLOs were planning to review their charge rates in the light of actual recovery after the first half year and quarterly thereafter. It was felt that changed arrangements for the booking of operatives' time in order to meet the needs of a proper charging system for DLO work might lead to an unexpected under-recovery of overheads.

2.1.17 Incentive schemes

Most DLOs in the sample use work-study based schemes for all trades but some schemes for a few trades are management-targeted. Although they do occur quite widely the sample did not include categorised schemes. As might be expected, there are considerable variations in the details of schemes: bonus cut-off, method of calculation, means of dealing with unmeasured work and lost time, level of detail of work specifications and other items. It is difficult, without constructing detailed models, to make quantitative comparisons between individual schemes because of the complex relationships between allowances, standard minute values and the performance/bonus percentage relationship.

Some authorities seem fairly satisfied that their schemes are fair to both the operatives and the council but others are welcoming the requirement of the 1981 pay agreement that schemes must be reviewed before payment of the revised bonus calculator, as an opportunity to negotiate a shopping list of improvements to schemes which have long been felt to be necessary.

Because of the complexity of some schemes and the effort required in terms of pre- or post-inspection, targeting and bonus calculation, the value of detailed work-studied schemes, exploited where possible by the operatives if loopholes can be found, is now being seriously questioned in some quarters. Although a radical move away from work-studied schemes is not feasible under current national agreements, in the longer term consideration may be given to simpler work-studied schemes or to management-targeted schemes, perhaps on the basis of work studied bench marks, which might be more suitable to the competitive environment in which DLOs now find themselves.

There is a tendency for bonus schemes to be progenitors of large volumes of useful but undigested management information. It is rare that it is abstracted into control information suitable for management at the various levels from the gang foreman to the DLO manager. Examples of useful data are: performance indices, variations in cost per productive standard hour, and as a proxy measure of total direct labour expenditure, totals of productive standard hours achieved.

2.1.18 Contractors

Hitherto, policies have varied on the issue of allocation of work to contractors. One authority has undertaken all maintenance with its DLO except certain specialist trades whilst another has deliberately limited the size of its DLO such that a proportion of work has to be allocated to contractors. The basis of allocation has varied but in future tendering is likely to prevail for the work offered. In the past, although significant maintenance jobs were subject to quotation, much jobbing maintenance work was allocated to contractors selected annually on the basis of dayworks rates. Further issues regarding the role of contractors in the wake of the Act and the March 1982 Competition Regulations are discussed in Section 2.2.

2.2 CHANGES RESULTING FROM THE DLO LEGISLATION

2.2.1 General considerations

The Act, because it creates a completely new environment for DLOs, has caused local authorities to review in a major way their structures and procedures as far as building maintenance is concerned. The effect of the Act is to open up the performance of DLOs for appraisal in a more marked manner than hitherto and to make them compete in a quasi-contractual way for a part of their workload. It is however important to remember that in many respects the DLO cannot be regarded simply as another maintenance contractor. It has certain statutory and emergency functions; it is not free to seek work where it wishes; it is subject to political influences at the local level; and it has to accept the provision of certain central services by its parent authority. But because it is now regarded as a trading concern, the DLO must be given the right circumstances in which to operate successfully: appropriate resources; freedom from undue interference from outside; fair apportionment of the cost of central services; and clear policies on its role and the standards expected. In addition it is likely that changes will have to be made to the DLO structure, working practices, attitudes (both on the part of DLO employees and client department staff) and in making explicit policies at the working level.

2.2.2 The effect of defining a client/contractor relationship

The sample in the study indicated that there were wide differences in the degree to which authorities, in implementing the Act, had effected a separation between client and contractor roles. There were authorities in which a sharp distinction had been made and a we/they relationship was developing quite strongly, and there were others in which the distinction was being played down as far as was consistent with implementing the legislation. In some of the sample authorities an intermediary role was being identified in the form of the technical control unit (under a number of different titles), which acted in effect as the professional arm of the "lay" client departments in respect of building maintenance, whether carried out by the DLO or contractors. There are many factors which affect structure and the degree of distinction between client and contractor roles, but a number of consequences flow from the need to make a distinction at all.

The first of these is that there may in some instances be an increase in administrative and supervisory work in order to achieve the maintenance workload that was previously managed by a lesser number of council officers. Client departments may now be supervising DLO work in the same way as with private contractors, checking workmanship, variations and extras claimed and charges generally. DLOs need to engage estimating resources for tendering, scheduling and claiming of extras in a way that was not necessary previously. DOE circular 10/81 acknowledged that some increases in staff may be entailed but felt that the cost of this might be offset by increased efficiency. However the views expressed during the study indicated that the scope for savings was in many cases small compared with the likely extra costs of the estimating and tendering requirements. Nonetheless it is known that some authorities are using the Act to achieve much needed reforms to working practices and bonus schemes. An examination of the Act's true effects, after a year or two of operation, could provide a useful measure of how it has achieved its implicit objectives of obtaining better value for money in the maintenance of public housing and buildings.

Another effect of the distinction between roles is the change that may occur in the attitudes of the DLO in many cases. Because it may now see itself in a situation of struggle for survival, the staff and supervisors may take advantage of what they see as laxity on the part of clients. The quality of work may suffer unless clients post-inspect work more thoroughly than was necessary hitherto. Standards of service may fall if it is not economic for the DLO to maintain sufficient operatives to respond as quickly as previously (it is recognised that this observation may cause wry amusement to some client officers who believe that their DLOs have not performed too well, but it is felt that this would be a minority view).

In the past the fact that DLO and client departments have been generally conscious of working towards the same end, the satisfactory maintenance of property (at reasonable cost), it has been possible for the DLO to accept loosely worded instructions. "Attend to the back door at 7 George Street" would allow the DLO to define and carry out the work it felt was necessary and the result would probably be acceptable. But if it sees itself as a contractor in a trading situation, it may not be prepared to accept such vague instructions, or it may try to make undue profit by doing more work than is necessary. In other words clients will have to be much more precise in their instructions, both to prevent the DLO from completing blank cheques for itself and to avoid the reaction from the DLO that its staff are wasting valuable time trying to find out what work is to be done.

This brings the discussion to the key policy issue: given that the client/contractor relationship is implicit to some degree in the legislation, how is the council to define the role of its DLO? Some would argue that, notwithstanding the legislation, the DLO exists to provide a service to the authority and, subject to working within the statutory boundaries, this consideration is paramount. Others might see the DLO as simply another maintenance contractor in the search for value for money, albeit a contractor with a special relationship with client departments. Another view, currently topical, is that the DLO is a good employer of construction industry operatives in hard times and any client/contractor relationship must be worked out with this aspect in mind. The acknowledgement of the existence of this distinction in roles needs to be followed up by each council taking a policy stance on such issues so that officers in both client departments and DLOs know where they stand and can set their management objectives accordingly. However, it would be sensible to recognise that the client/contractor distinction can be taken too far. In the final analysis the DLO and its client departments are working to the same end, the proper maintenance of the council's capital assets, and efforts to demonstrate apparent value for money by making the DLO behave too much like a private contractor may not be cost-effective for the council as a whole. In this context there is a fine balance between giving an incentive for increased efficiency and setting up an administrative framework to measure whether this extra efficiency is being achieved.

One of the purposes of the legislation is to enable authorities to demonstrate that their DLOs are employing capital effectively. If, however, when considering the policy aspects, the investment of the DLO is regarded in a wider context to include as well as fixed assets, the human assets of its staff, their knowledge of council affairs, buildings, housing and tenants, and the time and money invested over the years in developing procedures and systems, the dangers of making the DLO risk its future existence on its ability to act like a contractor are clear to see: the investment which extends wider than the purely accounting context may be dissipated and eventually lost completely.

2.2.3 The effect of the estimating and competition requirements

As mentioned in section 2.1.2, one of the most significant effects is a call for extra staff resources for estimating by DLOs and for clients in preparing and evaluating tenders and then supervising the organisation appointed, whether it be DLO or contractor. One of the difficulties faced by many DLOs is the apparent shortage of staff who can be termed maintenance estimators, for the skills required are somewhat different from those needed for estimating capital works.

Authorities are preparing schedules of rates for maintenance work and this is creating a peak of demand on staff resources, which in many cases cannot be satisfied by the appointment of a firm of consultants because of the need for familiarity with an authority's procedures and property mix. This is why many authorities consider that any national schedule of rates cannot properly meet their needs without extensive adaptation to make it compatible with local bonus schemes and the standards set by property managers in relation to the particular types of property maintained.

Although schedules of rates are generally regarded as a satisfactory means of pricing work in competition, particularly for minor works of construction, numerous practical problems arise when schedules are applied to maintenance work. The volume of items required, even for housing is considerable and it is questionable whether they are appropriate for some of the more unusual maintenance work necessary for non-housing buildings. Although the PSA Schedule of Rates for Building Maintenance is generally acknowledged to be comprehensive, doubts are expressed whether it is suitable for the local authority context, partly because of its complexity and the resources needed to administer it. A further resource aspect of schedules is that in order to use them most economically a computer is needed, but it may be some time before some of the smaller authorities can gear themselves up for this.

Schedules are a straightforward and effective method of charging for work and one of their obvious advantages is the presentation of information in a common form for the DLO and contractors to price. But when used competitively the difficulties of pricing and evaluation are considerable. Assumptions have to be made by tenderers on the likely quantities of each item before it can be priced, unless the client indicates typical quantities.

Ideally, pricing needs to take account of differences between properties and between locations of work. Some housing estates are much easier maintenance environments than others, but an authority-wide schedule cannot cope with such variations. Without some sophistication in its application, it cannot necessarily be assumed that the cheapest schedule will represent the best value for money.

Despite the extra work necessitated, the accounting regulations and trading account philosophy behind the legislation have been welcomed by many connected with DLOs. However, the March 1982 Competition Regulations, stipulating that 30 percent of maintenance jobs under the £10,000 threshold should also be subject to competitive bid, are seen, even by those authorities who currently place a significant proportion of maintenance work with contractors, as introducing an extra dimension of complexity in the procurement of maintenance which may not necessarily result in better value for money. Furthermore, even if an authority ran down the uncompetitive sections of its DLO, leaving it with 70 percent of the maintenance workload as defined in the regulations, and so was able to economise on tendering costs and concentrate on getting the work done efficiently, there could be no guarantee that the ground rules would not be changed at some future date by altering the percentage of work to be submitted for competition.

The main research for this report was carried out before the March 1982 Competition Regulations were published and it was not therefore possible to assess how authorities were going to determine the composition of the 30 percent of workload among the various options, for example allocating a geographical area for tender, or particular trades, or all maintenance during a particular period of time, or indeed the allocation of the 30 percent between different maintenance DLOs when more than one is involved. At the time of consultation about the draft of the report (July 1982) the authorities in the sample were giving active consideration to this issue but none had yet made final decisions.

The main result of having to tender for jobs estimated at more than £10,000 has been to introduce uncertainty into DLO workloads and has necessitated a review of redundancy policies. It would appear that painting sections have been the most vulnerable in this respect and this is an area in which some DLOs have so far found themselves to be least competitive.

2.2.4 Contractors

Some councils already employ contractors for certain aspects of jobbing maintenance, but for those whose DLO has hitherto carried out all of this type of work on the authority's housing, the effects on the tenants of employing contractors needs to be considered. In some areas the tenants' attitude to the DLO operatives has developed into one of trust, sometimes even to the extent of leaving a key for the operative. The council workmen are known as local men and they too know the tenants personally in many cases and this can assist with access and reduction of abortive calls. When contractors come into this situation the tenants' attitude may not be so responsive and might create difficulties for housing management staff.

Some contractors who have worked for local authorities in the past will find themselves in a new situation. They will be expected to work to schedules of rates instead of dayworks, and the bidding arrangements may well cause difficulties to the smaller firms. They will have to price the schedule, an activity to which they are not accustomed, and to do so they may be expected to have available operatives with skills across the spectrum of trades represented. This may well eliminate from the competition (unless authorities are prepared to split up their schedules) the small specialist firms of plumbers, electricians and joiners that many authorities have hitherto employed. Firms will also have to be able to indicate the response time in which they will meet requests, particularly emergencies. Some authorities may well experience difficulty in finding sufficient dependable firms who are prepared to give the all-round service that is essential for a certain proportion of the maintenance budget and which was hitherto satisfied by the DLO. Against this it must be said that some authorities do not have DLOs and yet they have (presumably) been able to maintain their buildings satisfactorily by using contractors; perhaps there are some lessons to be learned from their experience.

Although it may not necessarily apply when there is a severe recession in the construction industry, an issue that may be relevant is the response of market forces to the sudden release for competition of a large package of maintenance work; there is the possibility that tender prices will increase, and if the market in construction picks up, this will almost certainly be the case. Councils may then be in the situation of finding it difficult to obtain economic bids for maintenance work which they no longer have the manpower to undertake themselves.

2.2.5 Return on capital employed

The indications from the study are that achieving the five percent return on capital employed is not the problem that might have been inferred from the outcry in some quarters when it was first proposed. Of much more acute concern to DLO managers is whether, in the face of general financial stringency and the competition requirements, they can find enough work to keep their operatives employed. The rate of return amounts to between one and two percent of estimates of DLO overheads, in other words less than one percent of DLO turnover (if sufficient work is obtained to recover the overheads fully as estimated). It would appear therefore not to be a major element in DLO viability.

2.2.6 Attitudes to the legislation

Although research on this aspect was not one of the main purposes of the study, it is worth reporting briefly on it because it gives some clue to the reasons of diversity in approach to the client/contractor issue. One authority was contemplating exposing its DLO to 100 percent competition; its schedule of rates was to be used as the basis of allocation of all trade work in all housing areas. It was noteworthy that in this authority there appeared to be a strong "we/they" attitude between the DLO and its clients. At the other end of the spectrum one housing client was exploiting any legitimate devices to avoid exposing the in-house DLO to competition that it might lose. In the middle are those authorities and officers who, even though strongly committed to their DLOs, are nonetheless prepared to accept the rules and let the DLO compete on an equal footing with the private sector.

Whatever attitude the authority takes to the legislation, it is certain to be aware that external auditors are likely to be critical of any practice that could be construed as featherbedding the DLO at the expense of the contractors competing for part of its workload.

One of the attitudes to become evident as a result of the legislation was that of some managers in DLOs who said it gave them an opportunity to consider making changes in working practices which they have long thought desirable but have been unable to effect in the face of pressures from employees and trade unions: it has also been difficult to make changes from within when there is no external impulse to do so. To this extent the Act is regarded as of assistance to some DLO managers.

2.2.7 Value for money

One of the main results of the Act is to focus the attention of client departments on value-for-money considerations in respect of building maintenance. The key issue should be the wider one of the most cost-effective way of procuring maintenance, rather than the narrower consideration of the most cost-effective way of employing the DLO to carry out maintenance. A council needs to consider the aspects that affect the authority as a whole, including factors such as the additional cost of administering the accounting and competition requirements, the value of the building maintenance service in the wider context of a service to the local community, and the costs of separating client and contractor roles. These are not easy matters to resolve, not only because the circumstances are so different between different types of authority, and indeed between individual authorities of similar type, but also because many of the factors cannot be expressed in simple financial terms. However, any authority using the guidelines in this report as a checklist should be able to identify whether there are areas of its maintenance procurement operation which ought to be reviewed.

The focus on value for money should also bear on the trade-off between planned maintenance and responsive maintenance. If no planned maintenance were carried out, the cost of responsive maintenance would be high, and if all day-to-day maintenance were left untouched until it could be fitted into a planned maintenance programme, again, the cost would be high. There is an optimum point on the balance between planned and responsive maintenance, at which total maintenance costs are minimised, and this is the point for which property managers should aim. It is not easy to determine in practice, but an analysis of responsive maintenance jobs would provide some indications.

2.3 SUMMARY OF GUIDELINES ON PRACTICE

2.3.1 Scope of the guidelines

This section summarises the significant recommendations which are dealt with more discursively or are implicit in the text of the report, where their justification is also to be found. They are grouped under similar headings to the main sections of the report and only those guidelines are included which are considered to be universally applicable. Even so, some may be irrelevant or inappropriate in certain contexts; the circumstances of a county council general property DLO are very different from those of an urban in-house housing DLO. The guidelines are not intended to frustrate local discretion and they should be interpreted in the light of local conditions: any DLO which does not comply with a particular guideline should not necessarily be subject to criticism on this account. Some of the recommendations are directed towards the clients and policy-makers in an authority, rather than the DLO itself.

2.3.2 Policies, budgets and workloads

(1) The authority's policy makers should provide guidelines on priorities between different maintenance categories to assist DLO managers, but without encroaching too far on the ability to operate flexibly.

(2) The DLO and its clients should agree upon standards of service, in terms of expected response times for different types of maintenance job, but without damaging the DLO's ability to operate flexibly and reasonably economically.

(3) The authority should ensure that area housing managers and DLO staff are notified promptly of any changes in property ownership.

(4) The DLO should ensure that work carried out by its staff or operatives, which does not fall into one of the DLO revenue accounts, is properly recorded so that it is charged as income or allocated as a cost elsewhere.

(5) Planned maintenance schemes and budgets should be based (as far as possible within resource constraints) on property records and analysis of responsive maintenance jobs.

(6) Introduction of a computer property data base, where this is being considered, should be carefully co-ordinated between client departments, the DLO and the finance department to avoid duplication and to ensure the most economic and effective use of resources.

(7) Despite the uncertainties introduced for the DLO by the competition regulations, it may be in the best interest of the authority as a whole for the DLO to continue to use its expertise (when it has done so in the past) to influence the content of maintenance budgets.

(8) Local authority employers' associations would be advised to consider the feasibility of negotiating a loosening of trade boundaries in moves towards more multi-trade working in order to improve the efficiency with which some smaller repairs are carried out.

(9) Mid-career training for DLO management is a neglected area which should now receive greater attention. DLOs without the resources to carry out training in-house should look to their professional institute, the Institute of Municipal Building Management, for assistance in this field.

2.3.3 DLO structure and staffing

(1) It is neither desirable nor feasible to make recommendations on the degree of separation between client and contractor roles, but wherever in the spectrum the authority decides to make this division, it should ensure that roles and responsibilities are clearly defined and allocated, and every effort should be made to minimise the requirement for additional staff.

(2) The authority should make a clear policy statement as to whether its DLO exists mainly to provide a total maintenance service or as one of its maintenance contractors, but with a special role to provide employment to existing local authority employees.

(3) For a DLO to manage itself effectively, as many as possible of the ancillary functions (estimating, costing, administration, incentive scheme control, transport administration, stores and purchasing (where the stores operation is within the DLO accounts) should be within its direct control, provided that duplication of effort and resources can be avoided.

(4) In order that the DLO can bring its expertise and experience to influence maintenance policy (a considerable area of local authority expenditure), the DLO manager should be fairly high in the organisation structure. This will also assist in the recruitment and retention of staff with the required management ability.

(5) The employment of multi-trade foremen should be encouraged.

(6) First-line supervisors who authorise work or the content of work ordered should not be paid in a manner that relates their pay to the bonus of the operatives they supervise.

(7) Conditioned overtime for foremen should, in the longer term, be phased out as far as possible.

2.3.4 Depots

(1) In seeking to maximise its use of capital assets the DLO should review its depot requirements taking account of several factors including: geographical requirements, stores needs, existing facilities, procedures, other DLOs, likely changes in building stock to be maintained, traffic and access and local plans.

(2) Where there is potential or actual sharing of depots by different DLOs, perhaps operating different DLO revenue accounts, the authority should ensure that its overall interests are properly considered and prevail over the sectional interest of any one DLO.

2.3.5 Work initiation

(1) Although there can be no general guideline on initiation procedures for responsive maintenance, in a client/contractor context the client should provide the necessary technical interpretation of the works order, and the operative should receive clear instructions on the defect and access arrangements.

(2) Property records need to be kept up to date to minimise the risk of duplication of orders (more particularly with housing maintenance) and also as a basis for planned maintenance.

(3) The client department should assign a priority category to each works order.

(4) Priorities on planned maintenance schemes should generally be decided by the client department in the light of the buildings' requirements rather than by the DLO on the basis of its workload needs.

(5) For the repair of empty houses prior to reletting, an authority may need to issue guidelines to avoid conflicts between technical sections upholding high maintenance standards and housing management sections more concerned with quick relets and minimising the current year's expenditure on repairs.

(6) Monitoring of works order statistics should be carried out in such a way that the client is aware of the service it is receiving from DLO and contractors, and the DLO can use the information to plan its work and assess the service it is giving, but with minimum duplication of effort.

(7) Client departments and the DLO should agree procedures for progress chasing of orders on which completion is delayed, but minimising the resources to be expended on this activity.

2.3.6 Pre-inspection

(1) Pre-inspection for proper definition of the work for responsive maintenance should be undertaken by the client department or technical control unit. However in devising procedures the authority should ensure that there is no wasteful overlap with pre-inspection by the DLO for bonus-targeting purposes.

(2) There should be a uniform system for pre-inspection of work to be allocated to the DLO and contractors to ensure parity of information and instructions in clear terms.

2.3.7 Allocation of maintenance work

(1) In order to maximise the advantage of economies of scale, the authority should seek to programme as much maintenance work as is reasonably possible within resource constraints so that responsive maintenance can be confined mainly to breakdowns.

(2) It is desirable to establish and keep up to date a property data base of four types of record as a basis for orderly and effective maintenance: as-built record, condition record, maintenance and repair record, and maintenance manual.

(3) Computerisation of maintenance records is appropriate in large volume situations but needs careful co-ordination with other computer systems.

2.3.8 Work planning and execution

(1) Materials delivery procedures should be appraised to ensure minimum waiting and collection time by the operative, and minimum risk to security.

(2) In devising appropriate methods by which operatives travel to jobs, it should be noted that the cost of the operative's time is at a premium compared with the cost of travel by whatever method, and therefore approved modes of travel should be arranged to minimise travelling time.

(3) In most cases, except when extensive travelling is involved, operatives on responsive maintenance should report back to the depot at the end of each day to assist supervisory control.

(4) The planning and efficiency of execution of responsive maintenance can be improved by the adoption of a cyclic approach using a mobile base for carrying out repairs by all trades working for concentrated spells in a small area.

(5) For housing responsive maintenance, housing management staff should ensure that a repair request or works order carries sufficient access information to minimise the likelihood of an abortive call by the operative.

(6) The progress of programmed maintenance schemes should be properly monitored to facilitate timely corrective action if timescales or costs look likely to run beyond targets.

(7) Procedures for the swift repair of empty houses prior to reletting call for close co-ordination between trades and supervisory staff with the appropriate management skills, and a smooth, rationalised administrative system.

(8) The DLO should be prepared to deploy operatives and supervisory staff flexibly between depots when required by workload considerations.

(9) DLO working methods should be reviewed to ensure competitiveness, using management services staff as consultants when resources permit.

2.3.9 Emergency service

(1) Emergency procedure should be such that abuse of the system, which can destroy proper planning and economic execution of repairs, is minimised.

(2) All emergency calls should be properly logged (in addition to the normal order records).

(3) Tenants and other building users should be issued with guidelines on the type of repair that properly constitutes an emergency.

(4) The cost of emergency work should be separately identifiable from other repair work.

(5) The DLO should, unless there are good reasons for not doing so, charge for emergency work at a premium which reflects the true cost of having the resources available for such work.

2.3.10 Post-inspection

(1) In many authorities it would appear that the level of post-inspection by DLO supervisors of responsive maintenance by the DLO should be improved; a target of ten percent of jobs may be considered appropriate.

(2) Post-inspection of work should be recorded on the works order.

(3) Accounting systems should ensure that client departments are not charged by the DLO for remedying work deemed by either DLO supervisors or the client department's inspectors as unsatisfactory.

(4) Post-inspection of all types of maintenance work on behalf of the client department should be on a similar footing for both DLO and contractors.

(5) In cases where DLO supervisors inspect contractors' work on behalf of the client department (not when the contractors are subcontractors to the DLO), the DLO should make a charge for this service.

2.3.11 Transport and plant

(1) The DLO manager should be given authority for the provision, day-to-day control and servicing of transport used by the DLO in so far as this is compatible with the most effective overall use by the authority of its fleet.

(2) Transport usage information should be monitored to ensure effective use of vehicles.

2.3.12 Stores and purchasing

(1) If the stores is counted as a DLO asset, the DLO manager should be in a position to control stock levels, types of commodity held, procedures and purchase.

(2) The economic aim of maximising stock turn needs to be balanced against the ability of the DLO to provide a satisfactory repair service by holding rarely used or obsolete items that are nonetheless required on occasion.

(3) When computer systems are introduced for stores, documentation and procedures should be closely reviewed to minimise waste in the production and movement of paperwork and the overlap of manual and computer systems.

(4) Stores management information should be such that the stores and DLO managers (if the latter are responsible for stores) can monitor on an exception basis the use and value of stock.

(5) Stock checking should normally be carried out on a continuous basis.

(6) Opportunities should be sought to salvage materials for re-use where possible.

(7) Stores personnel should be adequately trained in the skills necessary for efficient storekeeping.

(8) A system of direct purchase should be such that a rational balance is struck between the flexibility and reduced capital required and the costs of administration and loss of benefit of bulk purchase.

2.3.13 Estimating, charging and financial management information

(1) The DLO should ensure that it has sufficient estimating resources to avoid undue delays in getting repairs through the pipeline and to make proper claims for all work carried out.

(2) Procedures should enable the DLO to carry out and charge for unforeseen work without undue delay being caused by the need for client department authorisation.

(3) The DLO and its authority need to evolve a tendering policy which allows for the pricing of different types of work, the aim of protecting employment for DLO operatives, competition in the market place and the use of any DLO reserves; the cost-plus basis of pricing is unlikely to be adequate on its own.

(4) Overhead recovery should be monitored carefully in relation to workload throughout the year to ensure that at the year end overhead costs will have been adequately recovered; it is not sufficient merely to monitor whether income equals or exceeds costs on individual jobs or in monthly returns.

(5) DLO cost centres should coincide with separately identifiable units for operational and management purposes.

(6) A DLO using individual job costing should consider whether the effort and cost of its production is justified.

(7) Financial management information should be concise, up to date and carefully structured to meet the needs of managers at the various levels at which it is used. Wherever possible it should be on an exception basis.

2.3.14 Incentive schemes

(1) Bonus schemes should be as simple as possible, consistent with providing worthwhile incentive and adequate control.

(2) Individual schemes are to be preferred to group schemes for jobbing maintenance work.

(3) Bonus schemes should not make extravagant demands for pre- and post-inspection over and above that necessary for adequate specification of work and materials and checking of the quality of completed work.

(4) Management information should be produced in formats that assist managers and supervisors in the control of bonus schemes.

(5) The cost of administration of bonus schemes should be reviewed periodically in relation to bonus paid and the productivity benefits of the schemes.

(6) Computerisation of bonus calculations should be considered where the scale of operations warrants this and should be co-ordinated with other DLO computer systems.

(7) Bonus schemes should not be adopted which reinforce demarcation between trade boundaries.

(8) Clock hours should always be reconciled with hours returned for bonus purposes, preferably using daily work sheets for responsive maintenance.

(9) Work specifications should adequately define and take account in work values of jobs which may be undertaken by more than one man.

(10) Revisions to existing bonus schemes should take account of the requirement for DLOs to be able to compete successfully with contractors for maintenance work.

(11) Innovations such as "tender-led" bonus schemes should be carefully thought through and adopted only where improvements to existing working methods and procedures prove inadequate to ensure the DLO's competitiveness. In the longer term, tender-led schemes may not provide the best value for money.

2.3.15 Contractors

(1) Unless there are firm reasons for doing otherwise, contractors should be employed either directly by the client department, or on its behalf by a technical control unit, or as subcontractors to the DLO.

(2) The DLO should be treated neither more nor less favourably than contractors in respect of information provided, instructions and supervision of work quality.

DLO MAINTENANCE PROCEDURES

Part Two Main Report

September 1982

PART TWO - MAIN REPORT

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1. INTRODUCTION

1.1 STUDY OBJECTIVES

In view of the developments that have taken place over a number of years in the field of direct labour, culminating in the legislation affecting direct labour organisations (DLOs) in 1980, the Chief Inspector of Audit commissioned the National Building Agency, and after its closure, NBA Construction Consultants, to undertake this study of building maintenance DLOs. The objectives were to:

- Study current practices for the organisation, management and operational procedures of building maintenance by direct labour in a sample of local authorities.
- Enquire into changes in organisation and procedures proposed or under way to satisfy the requirements of the Local Government Planning and Land Act 1980 (the Act).
- To identify good working practices.
- To publish guidelines on recommended principles and practice to meet the varying situations for maintenance by direct labour.

The study was undertaken by means of an intensive series of interviews with officers in each of the sample authorities, during which a certain amount of quantitative information and examples of documentation were also obtained. The arrangements in each authority were then described in a detailed case study report, which included any recommendations specific to the authority which could be justified on the basis of a short review.

This report aims to summarise the main findings on current practices, relating to the maintenance of buildings (public buildings such as civic centres, libraries and schools, as well as housing) with comparisons between authorities (not identified in the text), where relevant in illustrating the degree of variation in existing arrangements, and to discuss the advantages and disadvantages of alternative methods.

From these, certain recommendations on generally good practice are drawn out. It is not claimed that they will necessarily be universally applicable, but it is hoped to provide guidelines for district audit staff and for officers and members coming to grips with the problems of managing building maintenance DLOs in a markedly different environment from that obtaining a few years ago. It is recognised that the report comes at a time of much change, in terms of the legislative framework and as a result of the economic recession which is affecting the construction industry severely, and it can only represent a picture of part of the current scene; but it aims to indicate trends and to point in the recommended directions of future development. The report is based on the study sample as well as the general experience of the consultants involved. However, in view of the limitations of the small sample employed, a number of the issues raised may justify a wider study of some of the subjects concerned.

1.2 THE DLO IN A CHANGING ENVIRONMENT

Although it was not until April 1981 that DLOs had officially to adapt themselves to working in such a way that trading accounts could be produced to cover most of their operations, for several years prior to this the issue had been debated. In June 1975 the Chartered Institute of Public Finance and Accountancy (CIPFA) had published as "Direct Works Undertakings Accounting" (Bibliography reference 1) the report of the findings of its working party on the subject, and in June 1978 it published the sequel relating to maintenance, "Direct Works Undertakings Accounting - Maintenance" (Bibliography reference 2). In the same year the Department of the Environment published the "Final Report of the Working Party on Direct Labour Organisations" (Bibliography reference 3). The principal themes running through these documents were that DLOs should aim to save the local authority money (compared with having private firms do the same work), that DLOs should be effectively tested in competition with private contractors, and that the basis of accounting should be changed. The then government took note of these developments in publishing its draft bill on DLOs in early 1979.

In 1979 the incoming government published its "Consultation Paper on Direct Labour Organisations" (Bibliography reference 4) which discussed the principal issues, many of which were eventually to be covered by the legislation in 1980. Much of the detail relating to the accounting aspects flowing from the Act is covered by the guidance in the CIPFA "Accounting Code of Practice for Direct Labour Organisations" (Bibliography reference 5), and it is not intended that this report should go over the same ground; the concern here is for the managerial and organisational implications of working under the Act.

Although the Act only covers specifically the accounting, reporting and competition aspects of DLO operation, it creates a completely new environment for DLOs which requires them to re-think both their structures and their methods of working. The requirement for the DLO to make a profit on its revenue accounts implies the establishment of a client/contractor relationship, and all that this entails between the property management side and the building operations side of a local authority. However, one of the implications of the Act is the attention it has drawn to maintenance as a separate, and perhaps less controversial, aspect of building, alongside capital works. But it is important to bear in mind the limitations of the establishment of client and contractor roles.

Firstly, it is not possible to regard any local authority DLO completely in the same way as a private contractor. Local authorities work within national agreements on conditions of employment, and they also have to maintain labour forces to carry out certain statutory and emergency functions. DLOs do not have the same freedom to seek alternative work if they lose tenders, as do contractors. They are also more subject to political influences at a local level than are contractors (although building maintenance DLOs of private sector companies are, of course, very closely related to their clients). DLOs responsible for housing are accountable direct to consumers through member representation on controlling committees and sometimes also through working groups involving tenants, members, officers and operatives. Furthermore, DLOs are rarely given little choice but to accept the charges for central services, the cost-effectiveness of which cannot be questioned. All these factors would call into question any structural or procedural changes to a DLO which sought to make it emulate the role of the private contractor. Any alterations should be limited to enabling it to meet its obligations under the Act in terms of tendering and accounting, to be economically viable, and to improve its efficiency where shortcomings are perceived.

Nonetheless, it is important to provide the right circumstances for a DLO to be able to do its job properly, and these are some of the conditions that need to be fulfilled if this is to be the case:

- The DLO should be allowed to provide itself with appropriate resources to fulfil the orders it is given.

- It should not be subject to interference from its clients once it has been given orders and its prices have been accepted.

- Although DLOs must pay (in the usual local government way) for any service which their authority decides they should use, e.g. computer services, O & M, the basis of apportionment must be fair and must be explained in full to DLO managers.

- It should be given a clear policy brief on standards of service expected and priorities between the various tasks with which it is charged, eg responsive maintenance, repair of houses prior to reletting.

- The local authority's standing orders, designed to protect the council as client when dealing with outside contractors, should be modified where necessary to enable the DLO to function effectively in a competitive situation.

If the DLO is to be able to control its own destiny in the manner outlined above, then there has to be widespread recognition that changes may be necessary:

- Structure: certain functions may have to be moved to or established within the DLO.
- Working practices: these will probably have to be modified to meet the exigencies of a quasi-commercial situation and will make demands on operatives, supervisors and managers alike.
- Attitudes: housing management and other clients will need to be more careful and explicit in ordering work, and works staff and operatives will need to take a more cost-conscious approach to the work undertaken, but without loss of quality.
- Policies: at the working level these will have to be made more explicit and the political dimension of the new commercial environment will have to be recognised.

However, the necessary alterations cannot usually be made overnight; that has to be recognised in making judgements on a DLO's performance. The same people are involved in ordering and carrying out the same service - it is only the methods and framework for judgement that will be different. Nonetheless, if orderly progress is to be made, it is important to plan the changes properly, within the discipline of timescales, and considerately, so that staff are encouraged to give of their best in adapting to the new situation. Much patience and persistence will be required for success. It is within this context that the recommendations in this report are offered.

In making these opening comments, it is recognised that a number of DLOs, particularly those organised on the works department model (see Section 3), had taken considerable steps, some time before the legislative requirement, to remodel themselves after the manner of trading undertakings. Indeed at least one of those in the sample for this study has for some years been publishing an annual report and accounts. But across the spectrum of DLOs as a whole, it is likely that those following this practice have been a fairly small minority.

1.3 THE SAMPLE OF DLOs IN THIS STUDY

The aim was to obtain a reasonable cross-section in the sample of building maintenance DLOs and accordingly it comprised:

- Two metropolitan boroughs (MB)
- Two London boroughs (LB)
- Two district councils in urban areas)
- One district council in a rural area) (DC)
- One county council covering a predominantly rural area (CC)

Two of the local authorities had more than one DLO concerned with building maintenance and so the complete sample comprised ten DLOs.

It is not every organisation that is willing and able to submit itself to the detailed scrutiny entailed in the study. The sample was therefore to some extent self-selecting, in that it comprised only those authorities which responded positively to an invitation to participate, made by officials of the District Audit service on the basis of their knowledge and contacts in local authorities. Although as can be seen from the details given in Section 2, there is no representation of the very large DLOs with more than a thousand operatives, it is not felt that this is a significant omission in terms of the aims of this report, and in the consultation phase prior to its finalisation, the advice and comment of managers of such DLOs was made available to the research team.

As a final note on the sample, it is re-emphasised that this report is concerned only with building maintenance DLOs. It does not deal with DLOs concerned with new construction schemes, major modernisation programmes, or highways and sewers construction and maintenance.

1.4 ACKNOWLEDGEMENTS

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* Association of District Councils
* Chartered Institute of Public Finance and Accountancy
* Institution of Municipal Engineers
* Institute of Municipal Building Management
* District Auditors' Society
* Local Authorities Management Services and Computer Committee

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* F Jackson, Acting Director, London Community Builders
* J Roe, Director of Housing, Bolton Metropolitan Borough Council
* W H Werry, Deputy District Auditor, No 8 Audit District, who also directed the project on behalf of the Chief Inspector of Audit.

It should be noted that inclusion of bodies or individuals in the above list does not imply their full and unqualified approval of the final content of this document in its published form.

1.5 STUDY TEAM

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The fieldwork took place between March and October 1981.

2. TYPES OF DLO

There are different types of DLO across the country according to the circumstances and needs of individual authorities, but most building maintenance DLOs could be fitted into one of three broad categories. These have been given titles that are used in the text when it is desired to make distinctions. There are of course shadings between the categories, but in general the classifications remain valid.

2.1 IN-HOUSE DLO

This is a DLO that undertakes work only (or nearly exclusively) for the department within which it is located, now almost invariably the housing departments, although in the past there have been education department DLOs. It is a strongly client-orientated DLO.

2.2 WORKS DEPARTMENT DLO

This is usually the maintenance division in an independent direct works department, which may report to its own committee. It carries out maintenance for the housing department and to buildings for which other departments are responsible. It may also undertake agency work on behalf of other authorities, for example the county council and the water authority. In the past the works department may have had a significant capital workload but there is a tendency now for the capital and maintenance DLOs to merge.

2.3 GENERAL PROPERTY DLO

This provides a maintenance service to users of buildings in a number of departments other than that in which the DLO itself is located. Its department may include other DLOs not directly concerned with buildings, for example highways and sewers, and perhaps other technical services such as planning or architecture. In some cases this type of DLO has resulted from the merger of other (smaller) client-orientated DLOs, for example, education.

2.4 DLOs IN THE STUDY SAMPLE

The main parameters for the operations of the DLOs in the sample are indicated in Table 2.1. These will enable the various comments and comparisons to be set in context.

Table 2.1: Details of sample authorities and DLOs

Local authority	DLO type	DLO size (Number of operatives)	Area covered (square miles)	Population within area	Type of area
London Borough (LB)	(in-house	192	(35	298,000	outer urban
	(general (property	128	((		
London Borough (LB)	general property	346	8	150,000	inner urban
Metropolitan Borough (MB)	in-house	356	55	260,000	urban
Metropolitan(Borough (MB)(	in-house	805	(43	287,300	urban
(	general property	99	((		
District Council (DC)	general property	82	236	110,000	rural
District Council (DC)	works department	634	46	282,300	urban
District Council (DC)	works department	655	36	256,700	urban
County Council	general property	351	316	367,000	urban/ rural

The report contains a number of statistics and indices which illustrate the diversity of DLO maintenance operations, and in some cases reasons are postulated for the differences. It is not suggested that any of these values should be regarded as targets for good practice, although an authority looking at its own values in comparison with others may feel it is appropriate to move in a certain direction. The purpose of illustrating the figures is as much to encourage those responsible for DLO's to examine their own figures in context and seek the reasons for them, using them as a basis to question their own assumptions and preconceptions, as it is to show the variations in the study sample.

3. POLICIES, BUDGETS AND WORKLOADS

3.1 SERVICE PROVIDED

3.1.1 Priorities

Building maintenance DLOs generally provide most or all of the following services depending on the type of DLO :

- Responsive maintenance for housing and other buildings
- Planned maintenance (also known as planned preventive or programmed maintenance)
- Out-of-hours emergency service
- Repair and redecoration of empty properties prior to reletting
- Adaptations and improvements

The services usually cover the aspects of heating and electrical systems not within the responsibility of the statutory undertakings, as well as the more general building trades. These five types of work are normally subject to different procedures for ordering and budgeting but it is rare for the council to give policy guidelines on priorities between them. It is generally left to the DLO managers to balance the priorities as best they can in the light of the competing demands of clients and the resources they have available. Whilst this is also the way in which most commercial firms operate, it would not be unreasonable for a local authority to give its DLO managers some guidance on how it would like them to order priorities. This would in some ways ease the pressures on the DLOs, which have often attracted criticism in the past, sometimes because of alleged poor management, but also because of funding arrangements beyond their control; it would also encourage clients to have more realistic expectations of the DLO.

3.1.2 Response time and quality of work

The standard of service provided, in terms of the response time of the DLO to requests for repairs, is not usually laid down by the council, nor is it advertised by the DLO in the form of targets for service, although most DLOs measure the average time it takes to complete repairs in different trades. In deciding whether targets should be promulgated, it is necessary to strike a balance between satisfying the clients and the DLO giving itself enough flexibility to make the most economic and efficient use of resources. Nonetheless it is easy to gain the impression that the case for response time targets has gone by default rather than as a matter of deliberate policy. Those DLOs to which targets are applied find them a useful discipline even though they also find the client using them as a stick to wield over them.

If it is decided to have a policy on level of service, the question then arises - what standards? Generalities such as "keeping the dwellings in good repair" and "within a reasonable timescale" are not much help to the manager organising his workforce. The Greater London Council has produced some useful guidelines for times for both planned and responsive maintenance for housing. The latter are reproduced in Appendix 1 together with another categorisation by "urgency of repair", proposed for a London borough's housing department. The response time achievable has a direct relationship with the rate of repair requests, resources available and hence acceptable job costs. These factors need to be taken into account if an authority is considering using the targets of another authority as a guideline. The adoption of target response times presupposes that there is an adequate system for monitoring the progress of repairs, so that progress chasing can be undertaken when targets are not being met.

The quality of work is less easily defined, but nonetheless it should be attempted, partly so that clients have a better idea of the service they are paying for, and partly as a yardstick for use by managers and first-line supervision. Detailed guidance in this respect is appropriate to a more technical document than this report but one important point to emphasise is the need to leave each job properly completed, with rubbish and old materials removed and damaged or disturbed surfaces made good.

3.1.3 Work undertaken and policies on recharging

DLOs will undertake any job requested for public buildings within their capability but there are usually restrictions on work undertaken to housing without cost to tenants. Policies vary between authorities; most undertake the following repairs but as a matter of policy charge the tenant when the damage is deemed to have been caused by him (the tenant is charged by the client department, not by the DLO):

* repair of glazing

* repair of sanitary ware

* replacement of door locks

* repair of internal joinery

Most authorities do not undertake internal redecoration within dwellings, except on termination of tenancy or sometimes for special category tenants (eg the elderly and single parent families), and some do not carry out internal joinery repairs except to doors or floorboards. Some authorities will undertake improvements to facilities at the tenant's request, for example, installing immersion heaters, stainless steel sinks or modern fireplaces, or modernising windows or providing additional electrical circuits. Appendix 2 gives examples of work not undertaken or charged for.

Normally it is made clear in the tenancy agreement, or by letter, which items the council will or will not repair and there is often a standard tariff of charges for the rechargeable items. This avoids the problem of getting into arguments with tenants over the price of a job after it is done and also enables the money to be collected beforehand. However, although most authorities have policies to recharge for certain repairs, in many cases the sums actually collected each year are fairly trivial either because of difficulty of convincing the tenant that he is to blame or through the problems of collecting debts.

The Housing Act 1980, which requires councils to review their tenancy agreements, also gives them the opportunity to review policies on repairs undertaken for tenants. At least one London borough has decided to introduce charges to tenants for many small repairs hitherto undertaken free, but with safeguards for needy categories of tenant and repairs which have safety connotations. Other councils are likely also to be looking at these possibilities, but in doing so it will be necessary to check that the cost of collection (i.e. cost of additional housing management or finance staff) is worthwhile. However, the introduction of such charges may have a spin-off effect in deterring requests for repairs in some cases, or in encouraging tenants to do small repairs themselves. In this respect an element of equity will be introduced for tenants who already do some repairs themselves.

Another consequence of the Housing Act 1980 results from the sale of council houses. It is important that the department responsible for transfer of ownership notifies any change promptly to the departments which maintain records of properties to be maintained, so that the council does not find itself repairing houses in private ownership. This is a particular risk for works department DLOs, or in-house DLOs which receive requests direct from tenants rather than housing management staff.

3.2 SERVICES PROVIDED NOT AS MAINTENANCE CONTRACTOR

3.2.1 Corporate work

Within local authorities it has been traditional for DLOs to be involved in certain types of work which as a private firm they would not perform. Under the present accounting framework it is important that the cost of such work is separately calculated and not charged to the DLO revenue account (see CIPFA Accounting Code of Practice for DLOs) or else charged by the DLO as income. Such activities could include :

* Some administration and committee work

* Surveys of buildings for defects

* Inspection of repairs requested for the purpose of proper definition of the request

* Preparation of specifications and other professional advice to client departments

* Assistance in preparation of client departments' maintenance budgets

* Supervision of contractors not employed as subcontractors to the DLO

3.2.2 Other work

In addition to corporate advisory work, some DLOs carry out repairs and other work, which falls outside the scope of the Act but for which the costs need to be separately identified. Examples of such activities are :

- Repairs to school desks and other equipment
- Operation of radio communications system used by others in addition to DLO
- Assistance in providing stands and equipment for public events
- Provision of vehicles and skips for community aid schemes
- Manufacture and maintenance of small tools and equipment for other DLOs.
- Distribution of election ballot boxes and setting up polling booths
- Installation of aids in disabled persons' homes

These types of activity are more likely to be undertaken by works department or general property DLOs than in-house DLOs. As a result the question of separation of costs is probably not as difficult as it might otherwise be, because they generally have several clients and are more accustomed to separate costing of activities.

3.2.3 Charging for work outside the maintenance revenue account

When DLOs carry out work which falls outside the scope of the Act, the question arises as to whether the work can be charged as income to the revenue account, or whether the costs should simply be excluded from the account altogether; practice appears to vary in this respect. The disadvantage of not charging income for this type of work is that although costs may be reduced, by booking them directly to other accounts, the DLO income needed to cover the capital base is similarly reduced. Some authorities take the view that because the volume of work involved is small, it is easiest simply to regard it as within the scope of the Act, for administrative convenience. DLO accountants will need to seek the advice of their finance departments in individual cases, but it is important that a consistent policy should be adopted.

,.3 BUDGETS AND WORKLOADS

Under the present accounting framework, two separate and distinct aspects of budgeting need to be considered; the client departments' budgets for maintenance and the DLOs' budgets for income and expenditure.

3.3.1 Client budgets

Hitherto, some DLOs have enjoyed considerable influence on departmental maintenance budgets, particularly in-house housing department DLOs and sometimes works department DLOs which have been responsible for overseeing the maintenance function. However, under the provisions of the Act this influence is being reduced, particularly in respect of planned maintenance contracts, for which the DLO may be competing against contractors. The trend is for the technical input to clients' budgets to be provided by technical sections in client departments or sections with building surveyors who have been transferred from the DLO as client-side staff under a re-organisation. Nonetheless, it remains the practice in some authorities for DLO staff to continue to provide a good deal of the necessary information. Examples of those undertaking this type of activity and the related type of DLO are :

- Building surveying section in a technical services department (general property DLO)
- Building inspectors or surveyors in client department (general property, works department and in-house DLOs)
- DLO maintenance superintendents making written reports on needs as they notice them (works department DLO)
- Maintenance surveying section within the DLO (general property DLO)

There is naturally some reluctance, where DLOs have been traditionally concerned in the budgeting process, to allow their involvement to decline. Particularly in the new environment when the competition requirements make their own workloads less certain, it is useful for DLO officers to be able to identify sources of potential future work. However, in the usual situation where there are pressures to decrease or contain staff levels to minimise overheads, there will be competing demands on the surveying resources used to assist with budgets, because they will also be taken up in the largely new field of preparing estimates for maintenance jobs. Thus, although DLOs may wish to use their surveyors to find work, they may not be able to do so because they are too busy on other tasks.

The methods used to establish budgets for maintenance vary in sophistication but most in the study sample are fairly rudimentary. For jobbing maintenance, the usual procedure is to uplift the previous year's estimates by a factor for inflation in materials and pay costs, adjusted by changes in the numbers of dwellings or other buildings to be maintained. A variation on this is to use a cost per square foot of buildings maintained.

A more sophisticated method (used by a large housing authority, not in the sample but with the necessary resources for analysis) is to base budgets on records of work done. The average work content of jobs of different types, assessed from records, is multiplied by the annual number of jobs expected (adjusted for changes in stock) to give the estimated productive standard hour content of the year's work. To this is applied the DLO's charge per productive standard hour and an allowance for materials, to give the estimated budget for maintenance. Provided due allowance is made for the possible effect of the competition regulations, the DLO can use the work content figure to assess its own manpower requirements.

For planned maintenance or major repairs, estimates are prepared for individual schemes based on surveys and inspections, or on officers' own knowledge of maintenance needs and a desire to keep up the standards of maintenance of buildings. Once a list of desirable schemes has been drawn up, working groups of officers, and sometimes members, establish priorities within each department and then between departments, in order to fix the maintenance budgets for the coming year, often within pre-determined total figures. Inevitably some desirable maintenance works fall by the wayside during the negotiating process.

In the ideal situation, planned maintenance should be based on records of property condition, building by building; records of the plant, facilities and equipment in the buildings; and analysis of historical jobbing repairs. Authorities do not usually have such records in their entirety, although records for painting purposes are generally quite good and housing departments normally have house cards with brief details of repairs to each property. Whilst it is all too easy to criticise the absence of comprehensive records, it is pertinent to bear in mind the number of staff needed to compile and maintain such data, and the difficulty, in the last decade when maintenance work has increased significantly, of recruiting staff of the right calibre to establish the necessary systems.

The need for an adequate property data base is now becoming more widely recognised and some authorities are considering computer-based records linked to the rent accounting and DLO accounting and ordering functions. With the advent of on-line terminals this is likely to be an expanding area within the next few years. However, the establishment of such comprehensive systems is a complicated process and will need careful co-ordination between DLOs, client departments (particularly housing) and the finance department.

In establishing maintenance budgets there is often a grey area between capital and revenue estimates. Authorities categorise schemes in different ways according to varying criteria such as : subsidy arrangements; housing investment programme allocations; estimated value of individual schemes (thresholds can be as low as £2,000 for capitalised housing repairs in some cases). Financial skills and political considerations are the main influences on the capital/revenue decision. It is not of great concern to the DLO whether work is within an authority's capital or revenue estimates, so long as the two are brought together effectively in establishing the DLO's actual or potential workload.

3.3.2 DLO workloads and budgets

The requirement for tendering for jobs estimated at more than £10,000 and the possibility that client departments may give consideration to the idea of using contractors more, place DLOs in a totally different working environment than hitherto; they are now in a situation of business uncertainty, whereas earlier they had more or less guaranteed workloads in many cases. For example, by August 1981 the amount still at risk for one works department DLO was about 20 per cent of its turnover and compulsory redundancies were a strong possibility.

Works department DLOs are perhaps more vulnerable than others in this respect, because they are more isolated from their clients. Although they have opportunities to even out their workload among clients on the swings and roundabouts principle (whilst one client cuts, another may be underspending and have extra money available for maintenance), they tend to be more remote from the client than in-house DLOs, which are more likely to be regarded as part of the departmental service. The extent to which DLOs that are not in-house DLOs of housing departments are nonetheless dependent on housing maintenance can be seen from the examples in Table 3.1.

Table 3.1 Housing as percentage of total workload

Type of authority Type of DLO	DC general property	DC works department	DC works department	LB general property
Housing work (%)	98	70	60	72

Despite the uncertainties introduced by the competition requirements, if a DLO has traditionally provided the major technical input to client budgets and can continue to do so, it remains in a good position to influence its workload, even that obtained from outside its own local authority. For example, one DLO which carries out agency work for the county education department has a role in determining the annual painting programme and in doing so plans over a number of years so that not only is the expenditure spread so that more schools have a share, but also each job is smaller. This kind of arrangement is of course dependent on the DLO being able to demonstrate to its client that it is giving good value for money.

The balance between workload and manpower seems to be particularly difficult for DLO painting sections, owing to the bunching of exterior work during the summer months. One authority, after consulting the paint suppliers and Building Research Establishment, has mitigated this by recently adopting the policy of burning off during the winter; priming can be done three or more weeks later. This has the advantage that all woodwork requiring repair is exposed at an early stage, so that there is continuity of work when the painting does start, and it provides winter employment to DLO painters in authorities which do not have a significant workload of internal decorations.

3.3.3 Control of client budgets

Whereas hitherto DLOs have frequently been in a position to determine the rate of maintenance expenditure, under the Act the pendulum is now swinging in the other direction. Clients can control the rate of expenditure through the rate at which they give orders to the DLO. This control is exercised mainly through planned maintenance and schemes for repairs rather than by responsive maintenance which is less susceptible to this type of control. This may be illustrated by the example of a works department DLO which carries out agency work for the county : by week 18 in the financial year 1981/82 (35 per cent of the year having elapsed), orders for only 43 per cent of the budget had been received. Taking into account the time necessary to plan and organise work after an order is received, this rate of ordering suggests programming difficulties and bunching of work towards the end of the year. One view expressed was that insensitive control by the client of his budget could cause extreme difficulties for the DLO. This was regarded as an argument for keeping control of budgets in a technical control unit acting for clients, but within the same department as the DLO.

With housing department clients taking a closer interest in control of maintenance budgets, some are reorganising the way they do this. Instead of the rate of expenditure being monitored centrally in the department by expenditure category, the task is being devolved to an area level so that each area housing manager is responsible for his own area budget. This then introduces another dimension of potential uncertainty for the DLO in its work planning; the work for particular trades at individual depots might run out before the year end (or conversely, come in a rush towards March if an underspend situation seems imminent). One authority experiencing this situation has withdrawn its area allocation altogether; another method adopted elsewhere is to allocate the area budgets per maintenance category on a monthly basis to area housing managers, and if there is an underspend in any month, the surplus is withdrawn to the centre and re-allocated; it is not necessarily available for the area manager to spend in later months.

3.4 MANPOWER POLICIES

3.4.1 Redundancy

The requirement for DLOs to be financially viable will inevitably affect the employment circumstances of DLOs. Not only will they have to ensure that they win sufficient tenders to keep their workforces fully employed throughout the year, but they will also have to make sure that their working practices are efficient. Both these factors will probably have the effect of slimming down, both at the officer and operative levels. Councils are having to review their no-redundancy policies to meet this situation and employment in a DLO is no longer the safe haven that it once was for the older operative who does not wish to be caught up in the hurly-burly of general contracting. The situation is affecting authorities across the political spectrum and several DLO managers are being given the opportunity to hire-and-fire (usually only with committee authorisation) that never existed before. Whilst the effects on unemployment in the area are regrettable, the opportunity is sometimes one that DLO managers have wished for in the past, in order to weed out the poor or difficult performers and make their DLOs more efficient : in other words, the managers and first-line supervisors are being given a better chance to manage their labour forces. This is no more than has in the past been assumed to have been the case, e.g. in "Financial Control in Local Authority Building Departments" (Bibliography reference 22) and again in the "Manual of Principles" (Bibliography reference 23). There is no doubt, however, that many DLO managers have not had such freedom for many years.

The prospect of compulsory redundancies does induce councils to devise measures or adopt policies to minimise it. For example, a measure by one council was a resolution to allocate all work on the repair of vacant properties to the DLO, whereas previously 90 per cent of this work had been undertaken by contractors. A second measure, much criticised by the local Federation of Master Builders, was to award a contract to the DLO when its bid was, by a small margin, not the lowest. This was justified by the argument that the redundancies entailed if the DLO lost the job would have cost more than the difference between the lowest tender and its own. It would appear, from the point of view of cost-effectiveness to the council, that this is a valid approach, but the argument can of course only be used once.

3.4.2 Multitrade working

It is usual in local authorities for operatives to work exclusively in their own trades. However, in many cases there appears to be a certain amount of informal multitrade working. For example, plumbers may undertake joinery work when making good after their own repairs, and in some authorities they can then earn bonus according to the carpenters' incentive scheme.

Views differ on the extent to which multitrade working is feasible. One DLO manager formerly in the private sector, feels that such men do not exist and that most operatives have only a limited range of ability. The opposite view was expressed by another manager who quoted as an example that for the DLO to change a fire grate, four trades were involved, whereas when contractors did the work, only two trades were used. Another manager whose operatives are paid a plus rate between 5 and 15 percent to cross trade boundaries considers that most of the operatives in the wet trades have two skills, eg screeders, plasterers and bricklayers.

It is felt that the key lies in plus rates or bonus payments. Some however consider that multiskill tradesmen are only appropriate for small repair jobs and that if such men abounded it would be difficult to find sufficient jobs to utilise their skills fully. Nonetheless it is possible that in order to survive economically DLOs may have to introduce more formal multitrade working among operatives. It would be wise to investigate such methods as soon as possible, within the constraints of existing national agreements on conditions of employment and trade union opposition to the idea of "handymen" (although one in-house DLO in the study does actually list "handymen" on its labour return), in order to avoid the need for panic action in two years' time if trading accounts indicate an unfavourable position.

The advantages of a move to multitrade working would be :

- Competitiveness with the private sector, where the practice is commonplace.
- Cheaper repairs because there would be fewer abortive calls and less lost time and travelling time.
- Fewer visits necessary to complete a multitrade job and therefore less inconvenience to tenants and building users.
- More job satisfaction for operatives in doing a complete job; this might attract higher calibre men to the DLO, if quality of workmanship is a problem.

A related improvement in working practices would be for DLO management to press for abandonment of the principle of permanent mates for certain trades, such as plumbing, where the nature of the work has changed and also in other trades such as bricklayer and plasterer, where shared mates may be feasible.

3.4.3 Training and career development

One of the extra costs to which it is often claimed that DLOs are subject is that of training apprentices. The extent of employment of apprentices by the sample authorities in 1981/82 is shown in Table 3.2.

Table 3.2 Apprentices as a percentage of total operatives

Type of DLO	Percentage of apprentices
General property	6.2
In-house	1.6
In-house	11.2
General property	4.2
Works department	10.6
General property	1.0
In-house	4.6
Works department	7.0
General property	20.5
General property	6.8

Some councils, in view of the general employment situation in their areas, have adopted policies of deliberately keeping up their traditional intake of apprentices, despite a general decline in their workforces, to compensate for the fact that local contractors are taking on so few apprentices. Because of the recession in construction, the Construction Industry Training Board has recently had vacancies on its apprentice training courses which it is offering to local authorities. DLOs are able to take these up in association with the Local Government Training Board, which provides grants for the council to pay to the colleges taking the CITB trainees. However, it is held that even when grants are received, the costs of apprentice training are not eliminated, these costs being the slowing down of tradesmen, the need to employ a safety and training officer and the disruption caused by the apprentices being intermittently at the training school.

Not many DLOs have policies on career development, but one in-house DLO in the study has been structured to provide a career path from trade apprentice through tradesman, trade foreman, general foreman, superintendent (responsible for an area), senior superintendent (responsible for a larger area) to central superintendent: (it may be questioned whether in terms of overhead costs, all these levels are strictly necessary).

One of the problem areas in a number of DLOs seems to be in first-line supervision (see Section 4). A suggestion that has been made to overcome this would be to identify good third- and fourth-year apprentices as potential supervisors after a relatively short period working as operatives. This would be a new departure for DLOs but could be worth considering in the light of the need for commercial success, and to retain good apprentices who are otherwise liable to be recruited to the private sector as soon as their apprenticeship is complete.

Whereas the need for the training of apprentices is widely discussed and generally accepted, the subject of mid-career training for promoted tradesmen and management at all levels is rarely heard, yet this is an important area that no DLO can now afford to neglect. Those DLOs not able to draw on internal resources to carry out such training, which demands certain skills and experience that will not be readily available to many, should refer their requirements to the Institute of Municipal Building Management, which has for more than 10 years run such courses in London and would be prepared to mount similar courses elsewhere in the country in response to a firm demand.

3.5 CONTRACTORS

It is no surprise that the extent to which authorities use contractors for building maintenance appears to vary considerably. Some have a policy of reserving all maintenance work to their own DLOs except specialist work for which they engage subcontractors, for example, felt or asphalt roofing and tiling, and work which goes to contractors as a result of tendering. Other authorities use contractors to deal with peaks of work or as a matter of policy. In the study it was not always possible to ascertain the amount of work that had in the past been allocated to contractors because the details were simply not available in that form, work having been coded to the relevant client expenditure category regardless of whether it was by DLO or contractor but not summarised separately for each. This explains some of the gaps for 1980/81 in Table 3.3 which gives some detail of contractors' work. The gaps in the 1981/82 estimates for contractors arise mainly from uncertainty as to whether the DLO or contractors would win tenders for parts of the work.

It can be seen from the table that contractors are generally supervised by officers outside the DLO, most usually by maintenance surveyors in a client section within the same department. It is however interesting to note that in two cases with in-house DLOs, the DLO supervised the contractors. This is an arrangement which, whilst it may make best use of available technical expertise, may place the officers concerned in a difficult position when they are also responsible for the viability of their own labour forces. The question of the level at which it is appropriate to wear both client and contractor hats is discussed in Section 4.

Table 3.3 Percentage of work carried out by contractors

DLO	1980/81 actual (percentage)	1981/82 estimate (percentage)	Policy for use of contractors
General property	-	18	Repair schemes only. No involvement of DLO management
In-house	-	47	External decoration and workload peaks. Supervised by DLO officers.
In-house	9	12	Work-load peaks. Supervised by DLO officers
General property	25	-	Only specialist work or if DLO lacks capacity. No involvement of DLO management.
Works department	-	22	Specialist work and, until recently, work on void properties. No involvement of DLO management.
General property	-	65	Specialist work and half the normal workload. No involvement of DLO management.
n-house	-	-	Work only given to contractors if the DLO and other DLOs in the authority do not have capacity.
Works department	6	-	Specialist work or work lost by DLO in competition. Specialists supervised by DLO officers, others by another department (Architects).
General property	50	-	External and mechanical works and when DLO lacks capacity. No involvement of DLO management.
General property	-	12	When DLO lacks capacity or work is lost in competition. No involvement of DLO management.

4. DLO STRUCTURE AND STAFFING

4.1 THE DLO IN THE LOCAL AUTHORITY STRUCTURE

4.1.1 Client and contractor roles

This issue was touched on in Section 2 where the typology of DLOs was introduced. There are wide variations between DLOs and the DOE Working Party recognised that it would be impractical to prescribe a standard form of organisation. It did however suggest that one committee should be responsible for controlling the DLO and that preferably this committee should not be placed in the position where it might be faced with conflict between its responsibilities for client and contractor functions. The extent to which the DLOs in the study meet these ideals is indicated in Table 4.1. Only two DLOs (with asterisk) are controlled by a committee without this dual interest. One DLO in the sample reports to two committees.

In Section 1.2 some of the important principles regarding the client/contractor relationship were discussed. Since the implementation of the Act many authorities have debated its possible implications on organisation structure and the degree to which separation of the roles is desirable and possible in conceptual, financial, structural and physical terms.

There is no doubt that the concept of separate roles for departments as clients and the DLO as contractor is now widely accepted. Although the Act makes no specific mention of this, the implication is clear. The problem for local authorities is how, within a unitary organisation, a conceptual division can be effected in practical terms. The situation is analogous in some respects with commercial practice where a large company is divisionalised into separate units for accounting and administration. But the analogy cannot be pressed too far, because the DLO is the only part of a local authority that has to be separately viable in this way; the other service departments continue, as before, to be a cost falling on the council's income as a whole.

The issues of financial separation are those that authorities had to grapple with most immediately in order to comply with the Act. All have had to make considerable alterations to their financial systems but the pace at which they have done this has varied. Some councils made radical changes to systems so that they could be implemented in full on 1 April 1981, whereas others adopted a step-by-step approach, making the changes as they became necessary. Authorities taking the first approach have the benefit that there is only one major upheaval and financial information in trading formats should have been available to DLO managers fairly soon after the change-over, but they suffer the risk that if major snags are discovered in the new system, then there will be a second period of difficulty and change as these are corrected a year or two later. Councils which have taken a more cautious approach will have had a longer period of uncertainty but in the end they may be able to benefit from the experience of others who have moved more quickly, or systems can be changed in a more considered manner.

Table 4.1 : Controlling and client committees of DLOs

Type of authority	Type of DLO	Parent department	Controlling committee(s)	Client committee(s)
LB	General property	Borough Engineer and Surveyor's within Directorate of Technical Services	Public Works, General Purposes.	General Purposes, Public Works, Libraries and Arts, Social Services.
LB	In-house	Housing	Housing	Housing
MB	In-house	Housing	Housing	Housing, Education, Social Services
DC	* General property	Technical Services	Health and Works	Housing, Community Services
DC	Works department	City Technical Services Officer	Public Works	Housing, Public Works, Environmental Services, Transport Leisure and Amenities, Policy (Land) Sub, County Education, County Social Services, other minor clients.
MB	General property	Estate and Property	Land and Property	Land and Property, Education, Arts and Recreation, Social Services, Health and Environment, Finance, Development Planning and Highways, Housing, Workshops for the Blind.
MB	In-house	Housing	Housing Management	Housing Management.
DC	* Works department	City Works	Works	Housing, Estates Management, Parks and Recreation, Highways Transport and Cleansing, Environmental Services, Museums, County Education, County Social Services, Regional Water Authority, other minor clients.
LB	General property	Technical Services Directorate	Works	Works, as representative of user committees.
CC	General property	County Clerk's	Supplies and Building Services Subcommittee	Education, Social Services, Policy and Resources, Planning, Public Protection, Estates, Highways and Engineering Services, Employment Promotion, Tourism and Arts.

One of the policy consequences of the Act will have been to encourage maintenance DLOs to go off on their own, but this aim will be at variance with those of some clients, particularly housing departments, who may wish to retain the maintenance service within their own control. In other words there are potential differences between those who regard the DLO as a maintenance service (analogous to housing management or social services) and those who regard it as a contracting business. In this respect the works department DLO may have an advantage over the in-house DLO. The former will tend to see its survival problem in starker terms, regarding itself as a contracting business, and therefore more prepared to follow through fully the implications of the Act. Because it may, in this sense, be more "aggressive" than the in-house DLO, and because it is more likely to have its own committee and does not have to struggle against other sections of its department in order to make its voice heard at the top policy level, it may be in a better position to survive. In this respect the general property DLO may be most at risk, because it has neither its own committee, nor its own department defending its existence as an in-house service and providing valuable support such as advice and lobbying on its behalf. An issue in one authority (without housing) is whether responsibility for repair and maintenance should rest with a central committee or the individual service committees.

Physical separation of officers in client and contractor roles is an aspect that some authorities consider, but two in the study had made such changes. One was a works department DLO where estimators were transferred from the DLO headquarters at its central depot to a new client unit at the department's main office, the other an in-house DLO where the DLO is moving to new headquarters. The principal considerations would appear to be whether such changes are necessary:

* In order to make new job ordering and estimating procedures work most efficiently.

* To help officers identify their roles correctly so they can properly serve either the clients or contractor.

* To avoid officers having work, which is no longer relevant in their new roles, thrust upon them simply because they happen to be in an accessible location.

4.1.2 Factors affecting structure

Because of the diversity of local authorities and DLOs it is not possible or sensible to offer guidelines on organisation that can have a universal application. However, in the wake of the Act a number of authorities have been considering whether they should restructure their departments to make the client and contractor roles more explicit, and in some cases whether to merge DLOs on the works department model. In resolving these issues the following factors, some of which are discussed in more detail subsequently, may be regarded as pertinent :

- The number and function of other DLOs apart from building maintenance, which may be involved.

- The extent to which suitable staff are available to manage merged or hived-off organisations.

- The extent to which the Act in any case required changes in work patterns, eg. an increase in estimating.

- The availability of staff in other departments to take on new functions owing to declining workloads in their own fields, eg. capital works.

- The degree to which separation of roles might cause duplication and hence an unnecessary increase in staff.

- The existence or otherwise of a committee responsible for the DLO but without client responsibilities.

- The extent to which certain facilities of the building maintenance DLO, eg stores, transport and depots, are already shared or used by other departments and services (eg. refuse, highways).

- The ability of the DLOs, without restructuring, to conform with the competition requirements of the Act, (ie. whether they have staff of the right types and numbers to do so), and the general overhead structures of the DLOs.

- The range and type of work expected by the authority of its DLOs, ie. the council's policy in this respect, which should be made explicit.

- Whether the local authority carries out agency work for other authorities with its own DLOs, and the nature and range of this work.

- Career development and pay structures under existing or changed organisations to ensure that DLOs have the opportunity to retain or recruit managers of ability.

In considering the position of a building maintenance DLO within its local authority structure, it is relevant to view it in relation to any capital works DLO. Although the latter have been more in the limelight in recent years, it should be borne in mind that the maintenance workload has always been much greater, increasing (nationally) from 75 per cent of DLO output in 1969 to 87 per cent in 1979, output as a whole varying by a maximum of 5 per cent about a mean during that period. In the light of this, perhaps the organisation and management of maintenance has not attracted the support and attention that is its due, in comparison with capital work. The need for a maintenance DLO can always be justified by the service aspects, but the justification for capital works DLOs is less clear-cut in non-political terms. The relative sizes of maintenance and capital workloads does therefore need to be a major consideration in deciding the location of the maintenance DLO.

4.1.3 Factors affecting a sharp distinction between roles

In conclusion it is perhaps worthwhile summarising the arguments for and against a distinct separation of client and contractor roles. The advantages are :

- Roles, responsibilities and accountability are clear in the event of either success or failure of the DLO to provide the service expected.
- The difficulties of officers finding themselves in dual roles is minimised. This is potentially a major problem if a DLO is faring badly and is tempted to take short cuts or reduce its standards in order to try to survive; an officer in a dual role might well face a conflict between his desire to preserve his own employment and his duty to the council as his employer.
- The DLO is in a better position to be master of its own fate, taking decisions and acting accordingly. It can act with clarity of purpose and in a competitive spirit.
- There is no question of an individual initiating both orders and payment for work done by his organisation.
- The DLO can be properly identified as being as nearly as possible in a similar position to a private contractor and therefore competing on fair terms.
- An equal standard and/or priority of service may be afforded to each client committee, commensurate with council policy.

The counter arguments are as follows :

- The establishment of potential confrontation points between client and contractor officers may jeopardise the standard of service and quality of work that the authority aims to provide to its tenants and building users.
- There may be overlapping functions which are wasteful in overall terms to the authority, although client and contractor each sees them as essential.
- Drastic changes in organisation may cause a temporary deterioration in an already hard-pressed service whilst they take place.
- Spans of control of managers may be changed in a way that reduces overall efficiency.
- A useful pool of experience and knowledge of practical construction may be lost to clients as a result of a distinct separation, because of the subsequent necessity to formalise the arrangements. This could adversely affect in-house knowledge in respect of costs and feedback on general maintenance problems.
- Existing chains of command to elected members may be disrupted, perhaps to the advantage of the DLO, but to the disadvantage of members and their constituents.

4.2 FUNCTIONS WITHIN THE DLO

4.2.1 Existing practice

If a DLO has to operate as nearly as possible as a trading organisation, it can best manage itself if it has as much control as possible over its costs, including overhead costs. In the local authority context it is not possible for it to have control over all these items because some are provided centrally. But even where central services are concerned, DLO management needs to have full details of the costs and should be satisfied that such costs are justified in terms of the service provided. Although legal, committee, financial accounting, computer and management services are normally outside the department in which the DLO is located, there are other functions which may or may not be within the DLO itself. The situation in respect of these in the DLOs in the study sample is shown in Table 4.2. In this context "within the DLO" means under the direct control of the building maintenance DLO manager. Otherwise they are shown as being within the department where the DLO is located, or in another department of the authority.

A general point to emerge from the table is that few DLOs have many of the functions within their own control; those that have the most are two housing department in-house DLOs. Apart from workshops, which are common to all DLOs, these two DLOs are directly responsible for purchasing, stores and transport administration.

The works department DLOs also control transport administration, but no DLO is responsible for maintenance of its own transport fleet. They are in this respect captive customers, as are the operating departments of some major construction contractors with transport fleets. The general property DLOs which are in technical services or engineer's departments do at least have their vehicles administered by a division in their own department.

It is perhaps surprising that more DLOs are not responsible for their own purchasing and stores. This has possibly been for reasons of accountability, but now that DLOs are to be accountable units themselves, it would seem more appropriate that the DLOs should be responsible for these functions, particularly where the stores are included in the DLO capital assets: (the CIPFA DLO Accounting Code of Practice leaves this decision to individual authorities). Efficiency in the use of materials, and minimising within practical bounds the amount of stock held, may have a significant effect on future trading performance. It could also lead to a more strictly commercial decision as to the cost-effectiveness of having an in-house stores compared with direct supply from merchants to depots. The issues surrounding stock levels and the overhead costs in running the stores are probably more significant than the return on capital in this decision.

Table 4.2 : Location of functions

Type of authority	LB	LB	MB	DC	DC	MB	MB	DC	LB	CC
Type of DLO	GP	IH	IH	GP	WD	GP	IH	WD	GP	GP
FUNCTION										
Estimating - responsive maintenance	0	0	0	0	0,2	0	0	0	0	0,2
- schemes	2	0	1	0	1,2	1	1	1,2	2	1
Costing	2,3	2,3	2,3	3	2	3	1,3	2,3	2/3	2,3
Administration (general)	2	1,2	2	2	2	2	1	1,2	2/3	2
Wages	2,3	2,3	2,3	3	2,3	1,3	1,3	2,3	2/3	2,3
Bonus target assessment	1	1	0	3	0	0	0	0	2	1
Bonus calculation	2,3	2,3	2,3	3	3	1,3	1	2	2	2
Work study	3	3	1	3	3	3	3	3	3	2
Purchasing	2	2	1	3	2	1	1	2	2/3	2
Stores	2	2	1	2	2	1	1	2	2/3	1,2
Transport administration	2	2	1	2	1	3	1	1	2/3	2
Workshops	1	1	1	1	1	1	1	1	1	1
Safety	-	-	1	-	2	-	-	2	-	1
Transport maintenance	2	3	3	2	3	3	3	3	2	3

Key

0 = Automatic function, eg bonus target self-assessed from tables, charges calculated from productive standard hours or costs

1 = Function within building maintenance DLO

2 = Function within DLO's department

3 = Function in another department

2/3 = Function carried out by a joint administration section serving DLO's department and another department

1,2 = Function carried out partly by DLO and partly by others in its department.

2,3 = Function carried out partly by DLO's department and partly by another department.

Few DLOs have direct control over general administration, costing and payroll. Some DLOs have small clerical resources but general administration is normally carried out by the parent department, the reason being presumably to make best use of staff resources without duplication. Costing and payroll are dealt with partly by the parent department and partly by the finance department. There is no reason why these functions should not be exercised outside the DLO, if that is the most economical way of doing so, but the DLO manager will need to be convinced that DLO overheads are bearing only their fair share of these costs.

Bonus targeting, where it is not automatic (in other words arising from values for tasks that operatives enter on their timesheets) is nonetheless not always carried out within the DLO, where it would be expected that this function would reside. In one case it is carried out by the housing department inspectors who order work on the DLO located in the technical services department, and in another case by job assessors in a section in the parent technical services department. Calculation of bonus is normally commenced in the parent department and completed in the finance department, although for two DLOs neither the DLO nor its own department has any involvement in the calculation.

Work-study services are usually provided from a section in a central department, frequently that of the chief executive, but in one case an in-house DLO has its own work study officers. This has the important advantage that work-study queries can be quickly dealt with, and DLO management has expertise under its own functional control on matters connected with the incentive scheme. The disadvantage is that it may not make most effective use of work-study resources because the authority loses flexibility in staffing, and there may also be the possibility that different standard minute values may be applied to similar work in different departments or DLOs.

4.2.2 General recommendations

The following points are suggested if it is decided that it is desirable that there should be a fairly sharp distinction between client and contractor roles (See also Section 4.4). However, the suggestions need to be considered carefully with regard to the circumstances of the individual DLO. In a small authority it may not be appropriate to regard the DLO as a separate entity for transport, stores, purchasing and work-study as this may detract from the benefits of greater efficncy aimed at by the provision of centralised service departments. Appendix 3 gives a checklist of client and contractor functions and Appendix 4 lists the services often provided to the DLO by other departments.

4.2.2.1 Costing

It is desirable that the DLO with a turnover above, say, £1,000,000 per annum should have access to a cost and works accountant to ensure that DLO management receives appropriate income, overhead and expenditure control reports. Only one DLO in the sample had such an individual under the DLO manager but in some of the others the accountant was within the DLO's department. However, it is not important that he should be within the DLO manager's direct control, so long as the control information is made available.

4.2.2.2 General administration and wages

Every DLO manager should have at least a small clerical and administration section under his own control: to ensure that paper flows smoothly; that the DLO charges are made promptly; that control information is available to DLO management; that management is not diverted from its proper task by unnecessary paperwork chores. However there is no reason why wider general administration should not be carried out in the DLO's parent department, especially if there are other DLOs involved.

4.2.2.3 Bonus schemes

Incentive schemes essentially should be tools of management and therefore the DLO manager should be able to influence and regulate them. It follows that bonus targeting should be undertaken by DLO personnel and that the initial stages at least of bonus calculation should also be done within the DLO, up to the stage of dealing with any queries and preparing the information in a form that finance department staff can key into the computer. Similarly, any manual preparation of management information should also be undertaken by the DLO, or in its parent department if the relevant staff are not under the control of the DLO manager.

Although it has been traditional for bonus calculation to be remote from DLO management directly concerned with the operatives, partly in order to maintain a distance for accountability reasons, this checking role could be carried out by the work-study section or internal audit.

Whereas it would be desirable for the DLO to have its own work-study staff, it is unrealistic to expect this to be possible in most cases, and it is expected that work-study will continue to be a centrally provided service, although secondment of individual officers to the DLO might be considered if resources permit this.

4.2.2.4 Purchasing and stores

Materials comprise about 15 to 20 percent of DLO expenditure; therefore when stores are treated as DLO assets, they should be directly under the control of DLO management as far as authority to purchase, decisions on type and level of stock to be held and issuing procedures are concerned, although again it may be appropriate for some of the administration to be done by the parent department.

4.2.2.5 Transport

The general question of control is discussed in Section 12.1. If it is the situation that the DLO has to use the council's transport and vehicle maintenance facilities, then detailed transport administration should be within the DLO or its parent department, as is the case with most of the DLOs in the study sample. Responsibility for decisions on the way transport is employed to ensure most cost-effective use should be firmly under the control of the DLO manager if the DLO is the major user of the authority's transport.

4.2.2.6 Estimating

As a general principle, the responsibility for preparing estimates for jobs should be within the DLO. For major repair schemes or tendered schemes DLO estimators should prepare the estimates, based if necessary on their own check surveys, after a schedule of works and specification have been prepared by a section on behalf of the client, which has also made the necessary surveys to prepare the documents. If the DLO undertakes the initial surveys and work specifications on behalf of the client, then it should charge for them.

The issue of estimating for responsive maintenance is not usually so clear cut. The question only arises if a schedule of rates is used; the client or his representative should prepare the items for pricing and the DLO estimators should insert the prices. But a grey area relates to individual jobs, as to whether the DLO should devote resources to pricing these or whether it is a client responsibility using the schedule of rates, which may or may not be harmonised with bonus schemes. The principle ought to be that orders should be received by the DLO in such a form that in most cases it can do the work without pre-inspection. This implies that the order should make reference to the schedule of rates and therefore the client in effect does the estimating. But for this to be the case, the schedule of rates needs to be in a form such that all costs, labour, materials, transport (and all overheads) are included in the rates which are for specific repair tasks rather than for operations which make up the tasks (this point is further discussed in Section 14.3). Unless the situation is as clear cut as described here in principle, it will depend on local authorities' individual arrangements as to who prepares the estimates, because expertise in the making out of repair orders ranges from the non-technical housing assistant to the depot foreman or clerk who takes orders direct.

4.3 LEVEL OF DLO MANAGER IN DEPARTMENTAL STRUCTURE

The DLO manager is here defined as the officer whose sole responsibility is for direct labour maintenance operations. He does not carry responsibility for client functions such as surveying and ordering work, although part of his time may be costed outside the DLO for work such as reporting to committee. Table 4.3 sets out details of the position of DLO managers in their departments, as found in the study sample. Chief officer or director is reckoned as first tier in the table.

The DLO manager tends to be a third tier post. Where it is second tier this would appear to reflect its relative importance, in one case in a housing department where maintenance is regarded as a priority, and in the other where the DLO is responsible for all maintenance in a fairly small rural authority. The example where DLO manager is fifth tier arises partly because the DLO is in the borough engineer's department which is itself in a directorate of technical services that includes also planning, architecture and estates management.

It is clearly preferable for the DLO manager to be as high in the structure as possible, in order that the DLO interests are given due weight and its influence can be felt, but without the disadvantage of having to fill two roles in which there might be a conflict of interests. Second tier would be the appropriate level for an in-house DLO manager who would then be on a par with the officers responsible for housing management and property surveying. This would also be the appropriate level in a works department if the existence of a one-to-one span of control between chief officer and deputy can be avoided. This latter is an arrangement often found in local authorities and goes against a general management principle that one-to-one relationships are unsuitable and wasteful; it would be more satisfactory to designate the most senior of a peer group of second tier officers as deputy in the chief officer's absence.

Table 4.3 : Position of DLO manager in departmental structure

Type of authority	Type of DLO	Tier of DLO manager	Title of DLO manager	Title of officer immediately above DLO manager
LB	General property	Fifth	Building Superintendent	Assistant Borough Engineer
LB	In-house	Fifth	Housing Maintenance Manager	Assistant Housing Manager (Technical Services)
MB	In-house	Third	Principal Officer (Works)	Deputy Director of Housing
DC	General	Second	Building Maintenance DLO Manager	Chief Technical Services Officer
DC	Works department	Third	Building Superintendent	Deputy City Technical Services Officer
MB	General property	Third	Maintenance Section Manager	Deputy City Estate and Property Surveyor
MB	In-house	Second	Building Maintenance Manager	Director of Housing
DC	Works department	Second	Assistant Works Manager	City Works Manager
LB	General property	Third	Chief Assistant (Building Maintenance)	Assistant Director (Surveying)
CC	General property	Third	Works Manager	Building Services Manager

The situation for a general property DLO is sometimes different in that the division responsible for building maintenance is usually either part of a wider technical services department or within a department that is broadly non-technical, for example estates management. In either case the principal officer of the building division would himself report to a chief officer and would be responsible for a professional section, ie surveyors, and an operational section, ie the DLO. The DLO manager would therefore be third tier in these circumstances.

4.4 ORGANISATIONAL CHANGES FOLLOWING THE ACT

At the time of the study some authorities had made changes to meet the new accounting requirements and others were moving more slowly until the implications could be more fully understood and assessed; in some authorities the position was one of transition.

The main changes made were designed to make the DLOs more autonomous and to remove as far as possible their client functions. A common arrangement was to establish a technical control unit in the same department as the DLO, to act as the client's representative in channelling orders to both DLO and contractors and to be responsible for technical supervision. In one works department DLO a works control unit was set up with responsibility for converting the schedule of rates into job estimates as the orders are received (non-emergency orders only for the time being). In one of the in-house DLOs the officer previously responsible for both client and contractor roles was given responsibility for the surveying and inspection function including the transfer of 40 percent of the foremen as inspectors, and a new DLO manager has been appointed; this has given the council the opportunity of viewing the DLO strictly as a trading organisation.

The prevailing circumstances of each authority will vary, depending on its structure prior to the Act and any changes made subsequently and therefore it is not possible to give advice applicable to most cases. However, as a general guide functions may need to be transferred into or away from the DLO as indicated in Table 4.4, to assist in implementing the Act. (This indicates in tabular form some of the suggestions made in Section 4.2).

Table 4.4 : Suggested transfers of functions to and from the DLO

To the DLO	From the DLO
Estimating	Formulation of maintenance budgets
Quantity surveying (to claim for variations, progress payments)	Property surveying and assessment of needs
Bonus targeting	Specifications and schedules for major repairs
Bonus assessment	Ordering maintenance jobs
Purchasing)if stores are)regarded as	Inspection for quality control on behalf of clients
Control of stores)DLO assets	Administration of recharges to other departments than client
Administration of transport	Maintaining clients property records
Safety	

4.5 FIRST-LINE SUPERVISION

First-line supervision, (trade and area foremen and chargehands), is one of the keys to good maintenance. They are responsible for day-to-day planning and allocation of the work, for arranging the timely delivery of the correct materials, for checking the quality of the work and for motivating the workforce. It is sometimes felt by the clients of the maintenance service (although this is by no means a universal criticism) that the poor quality of maintenance work arises from indifferent first-line supervision, partly through the inadequate supervision of operatives and partly because of insufficient co-ordination of trades.

4.5.1 Multitrade foremen

The problem often seems to stem from historical circumstance and the way foremen are appointed. In many cases first-line supervisors were originally classified as chargehands, but subsequently they were given staff status with wider responsibilities. Whereas previously as chargehands they supervised only their own tradesmen, as foremen they had to accept multitrade responsibilities. In practice, however, the foremen have often tended to drift with their own trades, in other words take a closer interest in the work with which years of experience has made them familiar.

Because of the way in which foremen are appointed it is in most cases too much to expect them suddenly to change to multitrade supervisors. The usual pattern is for older and more experienced, reliable craftsmen to be taken off the tools and appointed to supervise men who may have been their former workmates. Although some training is given in health and safety aspects and the requirements of legislation, there is little guidance on the management of men and the control of work. However, the need for DLOs to operate as trading concerns means that the managers should make particular efforts to encourage foremen to be cost-conscious and to make use of the controls provided. The problem of requiring former tradesmen to become multitrade foremen can be mitigated by ensuring that each depot has a spread of trade skills among its foremen, so that they can advise and assist each other.

4.5.2 Participation in incentive schemes

Another problem common to many authorities because it is embodied in a national agreement is that a foreman's pay is related to the men he supervises by a fixed differential above the operatives' pay, including bonus. This means that there is little incentive to take a tough line in supervision which might affect the men's bonus, because this would affect the foremen's pay too. This situation can also have the anomalous effect that if a man is promoted above foreman to a grade not eligible for bonus payments, he may earn less than he did as foreman, if his men were a high bonus-earning group such as painters. It would be more satisfactory if foremen were on a fixed salary above the maximum possible earnings of the operatives, but in some authorities this might have unacceptable cost implications in present circumstances. It is also argued that foremen would cease to be motivated unless they participate in a bonus scheme. In this case the solution suggested is to pay them a bonus related to the operatives' average performance over the last three months in the areas supervised; in other words they participate in the bonus scheme at a distance.

However, the other side of the coin to this problem is the complaint sometimes made by management services that foremen excluded from bonus earnings do not use incentive schemes sufficiently to assist with control of the work. It is said that they have insufficient interest in the scheme because "it is between the men and management services", and that the control information simply provides senior management with a stick to beat the foremen.

4.5.3 Foremen's overtime

In some authorities foremen are subject to conditioned overtime; in other words, as part of their conditions of employment they are required to report early for work to collect their vans, open the depots and plan the day's work, and to finish late to deal with paperwork and return vans to the depots where they are parked securely. Sometimes it is not feasible to do away with conditioned overtime completely but it can be reduced by providing alternative parking arrangements, although it is still necessary for foremen to arrive before and leave after the operatives.

Each situation will be different, but it can be examined to ascertain whether there is any opportunity for staggering of hours to reduce overtime and whether a more planned approach to maintenance would reduce the need for it. In the longer term the incorporation of conditioned overtime to a flat rate foreman's salary would dispose of the problem, but that would have union and cost implications, particularly if the need for conditioned overtime were reduced or eliminated.

4.5.4 Supervision ratios

The study gave an opportunity to examine the supervision ratios in the sample DLOs. This is defined as the number of productive operatives (see Section 4.6 for definition) per first-line supervisor (foremen and chargehands not on the tools). Table 4.5 gives details of this analysis, together with the size and type of DLO to provide the context.

Table 4.5 : Supervision ratios

Type of authority	Type of DLO	Total number of operatives	Supervision ratios
LB	General property	128	13.6
LB	In-house	192	12.1
MB	In-house	356	16.7
DC	General property	82	13.7
DC	Works department	634	18.8
MB	General property	99	12.1
MB	In-house	805	17.0
DC	Works department	655	17.3
LB	General property	346	10.9
CC	General property	351	12.3

The supervision ratio in the sample varies between 10.9 and 18.8, with an average of about 14, but there is of course no ideal figure for this. It will depend on a number of factors, such as :

* The general quality of the workforce

* The number of trades in the DLO

* The geographical spread of jobs and buildings maintained

* The variety and balance of the work

* The service demands of tenants and other building users (more vociferous and difficult tenants are likely to be accompanied by a need for greater supervision of the DLO in order to keep service complaints as low as possible)

* The repair ordering system and the extent to which foremen have to deal with paperwork (more paper implies more foremen to obtain a given supervisory output).

4.5.5 Recommendations

The answer to the difficulties mentioned would seem to be to exclude foremen from incentive schemes and eliminate conditioned overtime, and to make special efforts to recruit good multitrade foremen and give training to those already in post. It is suggested that a profile of the ideal foreman be prepared as an aid to recruitment and to help identify training needs among existing staff. It may also be helpful to identify explicitly the differences between commercial and local authority practice to see whether the foreman's job can be remodelled to be more attractive to commercial applicants. An interview programme might also be conducted among the foremen themselves to ascertain what they see as training needs, to determine whether they even realise that there is a need for improvement and to obtain an appreciation of their perception of the constraints on being a good supervisor, to see whether any of these can be removed. However, these suggestions do pre-suppose on the one hand that the existing supervisors are not un-receptive to training, and on the other that management is not constrained by union pressures to promote supervisors only from within. In these circumstances the solution is only likely to be applied in the longer term or if the issue of DLO survival becomes critical.

4.6 MANPOWER STRUCTURE OF DLOs

4.6.1 Productive operatives and overhead staff

The study shows that there are on the whole relatively small variations in the proportion of the workforce that is engaged productively but possibly quite significant variations in the number of overhead staff per operative (an approximate measure of the administrative heaviness of a DLO). Table 4.6 gives the details (in some cases the data are incomplete as insufficient information was elicited during the fieldwork for the study). In this analysis, productive operatives are defined as total weekly paid operatives, including labourers and apprentices but excluding clerks, job assessors, drivers, yardmen and storemen). Overhead staff are depot clerks, bonus targeting personnel, chargehands (not on the tools), foremen, other technical, supervisory and managerial staff, and administrative staff including the equivalent number of full-time staff charged to the DLO overheads by its parent department; bonus calculating staff are not included. As a measure the overhead staff ratio will be subject to some distortions, depending on the extent to which some functions are carried out outside the parent department and are therefore included in central administration costs rather than being expressed as full-time staff equivalents (The issue of overheads is further discussed in Section 14.4).

4.6.2 Trades employed

The number of different trades employed by DLOs varies considerably, as Table 4.7 shows for the sample, from 6 to 14. As might be expected, the smaller the DLO, the fewer the number of trades represented. The larger DLOs can afford to employ in small numbers such tradesmen as metalworkers, metal-window fitters and scaffolders.

The largest groups of tradesmen are painters in all DLOs, followed by carpenters and plumbers. One DLO, a small one that has education buildings forming half of its workload, has an unusually high proportion of glaziers among its workforce; however, other DLOs which care for school buildings, although in lesser proportions (about 16 to 18 percent) do not show this feature.

The proportion of labourers employed, varying between 7 and 24 percent, does not seem to bear any strict relationship to size of DLO; two large DLOs have more than 20 percent, but another large one (by the standards of the sample but not nationally) has only 12 percent. The type of DLO does not seem to be related to this proportion.

Table 4.6 : Productive operatives and overhead staff ratios

Type of authority	Type of DLO	Number of operatives	Number of productive operatives	Percentage of productive operatives	Number of overhead staff	Number of overhead staff per operative
LB	General property	128	109	85	33	0.26
LB	In-house	192	158	82	70	0.36
MB	In-house	356	334	94	71	0.20
DC	General property	82	79	96	16+	0.17+
DC	Works department	634	603	95	68	0.11
MB	General property	99	97	98	15	0.15
MB	In-house	805	767	95	78+	0.10+
DC	Works department	655	624	95	123	0.19
LB	General property	346	338	98	N/K	N/K
CC	General property	351	295	84	41	0.12

Note : + = actual number higher; full details of admin staff not known
N/K = not known

Table 4.7 : Trades employed

Type of authority	LB	LB	MB	DC	DC	MB	MB	DC	LB	CC
Type of DLO	GP	IH	IH	GP	WD	GP	IH	WD	GP	GP
Total number of operatives	128	192	356	82	634	94	805	655	346	351
TRADE	Percentages of productive operatives by trade									
	%	%	%	%	%	%	%	%	%	%
Carpenter/Joiner/Machinist	17	21	30	16	17	32	19	16	13	22
Fencer	3									
Bricklayer	3	5	5	12	7	8	8	13	1	7
Plasterer	4	4	3		8		5	1	4	5
Painter/Signmaker	28	25	20	30	17	27	22	22	36	24
Roofer (felt/slater/tiles)	2	5	2		1	2	3	1	2	
Plumber	10	15	15	12	12	8	9	14	9	8
Heating fitter/gas fitter	12	5	4		2		1	2	3	3
Pipe fitter/pipelagger								2		
Electrician	16	6	3	8	11	1	5	7	8	11
Metalworker/Blacksmith							1	1	2	1
Metal window fitter							1	1		
Glazier					1	11	1	1		2
Pavior		1					1			
Handyman		3		1						
Plant fitter			1				1			
Scaffolder					1		1	2	1	
Labourer	7	11	11	15	24	12	22	12	21	19
Apprentice (if not included with trade)			8	7			5	7		
Number of trades represented	9	10	9	6	10	7	14	13	10	9

Notes : 1) Percentages rounded to nearest whole number, or rounded up to one for thinly represented trades.

2) Abbreviations : GP = general property; IH = in house; WD = works department.

The fact that painting is the most strongly represented trade is significant in potential redundancy terms because painting schemes are often large enough to be above the tendering limit and so the work does not automatically come to the DLO. One authority has partially overcome this problem by packaging schemes of exterior decorating with pre-painting repairs, having found that the DLO is more competitive with this combination than in painting alone. Another solution, if employment policy rates higher than purely commercial considerations, is for painters to tender at or below cost, providing the return on capital can be earned by other trades. However, for a DLO to use this device (also used on occasion by contractors), it must be very confident that it has a sound and up-to-date financial reporting system so that management have the proper information to be able to judge when such risks are justified.

4.6.3 Manpower returns

In undertaking the research for the study, it was frequently found difficult to arrive quickly at the numbers and deployment of operatives, chargehands and foremen. Usually two sets of manpower returns are compiled, one by the administration section from payroll data and the other from depot-based information. In some respects they overlap but sometimes there are also gaps, so that it is rare for DLO management to have full and accurate details of their workforces, necessary for reviewing the deployment of trades and supervisors.

For each depot and in total for the DLO, the following information should be regularly available, at least monthly and in some cases weekly, if the situation is fluid :

- Number of staff (Technical, clerical, foremen, chargehands) : employed/sick/holidays/vacancies

- Number of tradesmen and number of apprentices in each trade and number of labourers : employed/sick/holidays

In some cases it may also be necessary to compile periodic returns on the type of work that operatives are engaged on, eg housing, educational buildings, so that workloads can be planned in an equitable manner between clients.

5. DEPOTS

5.1 GENERAL

Most authorities in the study sample have depot arrangements much as they inherited on local government reorganisation in 1974, or 1965 in the case of London boroughs, although in these cases transfers of GLC properties have affected the depot situation.

Not many authorities were considering building new depots although some rationalisation was taking place in a few cases. Investment in depots appears to take a low priority in view of other competing requirements for capital expenditure and this is likely to be emphasised even more now that a return has to be earned on the investment; new buildings could prove costly in this context.

Views on depot premises varied from suitable in location and facilities to inconveniently located and poor facilities. For example, one electrical and mechanical depot is in a former Victorian primary school building, and another depot is an antiquated farm building. A common complaint is cramped storage space and poor office facilities. However, some DLOs have the benefit of relatively modern purpose-built depots which also house DLO headquarters staff.

Depot boundaries are usually fairly rigidly defined on the basis of the location of buildings served. For general property and works department DLOs these boundaries do not generally coincide with the boundaries of housing management areas, nor is this invariably the case with in-house housing department DLOs.

5.2 FACILITIES

Most DLOs have one central depot which houses centrally-based trades and main stores; area depots; and sometimes also sub-depots with mess and storage facilities. Examples of the facilities provided at each of these categories of depot are given in Table 5.1.

Table 5.1: Depot facilities

Central depot	Area depot	Sub-depot
Offices	Offices	Office
Heavy materials storage	Stores	Imprest stores
Central stores	Transport storage	Tool store
Plant storage	Plant store	Messroom
Messroom	Messroom	Washing facilities
Toilet/showers	Toilet/washroom	
Glazing shop	Glazing shop	
Joiner's shops	Basic workshop	
Metal workshop		
Scaffold workshop		
Plant workshop		
Sign shop		

Table 5.2: Numbers of depots and average manpower per depot

Type of authority	Type of DLO	Size of DLO	Central depots	Area depots	Sub depots	Operatives per depot	Clerks per depot	Supervisors per depot
LB	General property	128	2	4	0	21	0.5	1.3
LB	In-house	192	0	4	11	48	1.7	3.2
MB	In-house	356	1	6	11	51	1.1	2.9
DC	General property	82	1	2	0	32	0	2.7
DC	Works department	634	1	3	1	158	1.3	8.0
MB	General property	99	1	0	0	99	0	8.0
MB	In-house	805	0	8	5	96	1.0	5.6
DC	Works department	655	4	19	1	28	0.1	1.6
LB	General property	346	1	4	0	69	0.8	6.2
CC	General property	351	1	4	3	70	1.2	4.8

5.3 NUMBERS OF DEPOTS AND STAFFING

As indicated in Section 5.1, the numbers of building maintenance depots within a given DLO depends as much on historical circumstance as on any action of management and in the study sample the number of area depots varies from nil to 19, although this latter figure is being reduced by rationalisation. The staffing of depots and numbers of operatives per depot also vary widely as Table 5.2 shows, but these variations should not be taken as indicative of a need for more or less depots. The size of the depots and the size of the authority's area are the most significant factors. The range for operatives per depot is 21 to 158 (average figures calculated from numbers of operatives and total number of central and area depots). The clerical strength at depots depends on their size and general policies regarding depot clerks. In some authorities the foremen and area superintendents undertake any necessary clerical work.

5.4 FACTORS AFFECTING DEPOT ARRANGEMENTS

The capital valuation of depots and premises is likely to be an important element in the return on capital calculation for building maintenance DLOs and although the return on capital is only about two percent of turnover, the amount may be quite significant at the margin, in terms of profit or loss. It is likely therefore that DLO managers will be examining their depot requirements in the light of the Act's provisions; however, in doing so it should be borne in mind that depot valuation is only one factor (probably the only easily quantifiable one) among a number of considerations discussed below, some of which are constraints that need to be weighed against each other.

.4.1 Geographical location

Depots should be as conveniently located as possible in relation to the areas they serve. Travelling by operatives to obtain materials and from depot to job needs to be minimised. In rural areas geography will probably dictate depot locations; it may be cheaper to give work to contractors in remote areas than to establish depots as a base for maintenance by the DLO.

5.4.2 Stores considerations

The extent to which central stores needs to be replicated by stores at area depots will depend on distances, usage of particular commodities and the range of commodities stocked. There may be trade-offs between the costs of time spent by operatives collecting stores and increased stockholdings necessary if area depots carry a full range of stock.

5.4.3 Existing facilities

Present arrangements may be so outdated that working is inefficient. For example storage space may be cramped so that time is wasted searching for stores or small tools. Or the depot may be insufficiently secure so that there are losses as a result of theft or vandalism. Welfare facilities may be minimal, leading to low morale among operatives or time wasted as they seek alternatives. Layouts may be poor, causing congestion and slow issue of materials. Vehicle storage space may also be an important consideration.

5.4.4 Working procedures

Some authorities are introducing cyclic maintenance, whereby visits to particular areas are planned within a cycle (see Section 9.1.4). This may affect the need for depots and enable some rationalisation to take place.

5.4.5. Other DLOs

In some authorities, depots are shared with other DLOs, eg highways, sewers, refuse collection, as an economy measure. This will, of course, affect any proposals the building maintenance DLO may have to reduce costs and act as a serious constraint on its own efforts to improve efficiency.

5.4.6 Changes in building stock to be maintained

Particularly in the GLC area, where housing is being transferred to the London boroughs, this factor will be paramount in consideration of depot arrangements, but it may also be relevant for other councils if, for example, a major housing estate conceived some years ago is nearing completion. It is worth considering the extent to which depot workloads have changed over the years.

In deciding depot locations, a suitable balance needs to be struck between housing and public buildings falling within the catchment areas of general property and works department DLOs. The numbers of buildings maintained by each depot can vary considerably even within one authority as the examples in Table 5.3 show. The average figures for "other buildings" may conceal large variations within an authority. For example, one city centre depot maintains public buildings almost exclusively.

5.4.7 Traffic and access

Alterations to the highway system, particularly in town centre locations, may have repercussions on the way a depot can be used. One authority is moving its depot out of the city centre, one reason being the inconvenience of traffic delay. In another authority a building maintenance depot had to be relocated through the construction of a new ring road.

5.4.8 Local plans

Proposals for new depot locations need to be discussed at an early stage with the planning department to ensure that there is not a conflict with land-use plans. For example, what seems a convenient site to the DLO manager may be designated as future open space in a local plan.

Table 5.3: Buildings maintained per area depot

Type of authority	Type of DLO	Number of houses per depot	Number of other buildings per depot
LB	General property	0	334 (2 depots separately providing building and M & E maintenance)
LB	In-house	(average 5100)	0
MB	In-house	3158, 2854 5170, 3406 5844, 6542 (average 4496)	0
DC (rural)	General property	2928, 5293 5435 (average 4552)	data not available
DC	Works department	10594, 4610 10134 (average 8446)	(average 97)
MB	In-house	9080, 6775, 5147 5135, 3565, 7947 6796, 5000 (average 6306)	0
DC	Works department	Example depot 3300 (average 1741)	Example depot 40 (average 45)
LB	General property	(average 3860)	data not available
CC	General property	0	(average 210)

5.4.9 Costs

The main questions regarding the cost of depot development proposals are:

- Can the council accommodate the cost of development within capital expenditure controls and the demands of other programmes?
- Will new development and abandonment of older depots significantly alter the capital base of the DLO?
- Can the reduction in operational costs resulting from new investment be clearly evaluated? Will other running costs be significantly altered?
- What will be the effect of debt charges arising from new depot development on the DLO revenue account? Will new assets depreciate more slowly than the older facilities? What will be the future effects on the capital base and on the rate of return?

6. WORK INITIATION

6.1 THREE STAGES IN INITIATION

The length of communication chain from point of origin of a job to the DLO depot is much influenced by the procedures for initiation of work. There are three stages in initiation and the person responsible will vary with the type of maintenance job; the stages are:

* Request for a job to be done
* Translation of the request into technical terms
* Order for the work

At some point in the process an indication of degree of priority will have to be attached to the job.

6.2 HOUSING RESPONSIVE MAINTENANCE

This comprises the bulk of the workload for the general trades in most DLOs and therefore it is vital that the operative receives clear instructions and that procedures are as smooth and as uncomplicated as possible.

6.2.1 Job Request

Requests for housing repairs are received in a number of ways:

* Tenant informs a housing officer when visiting for other reasons, eg welfare, rent collection

* Tenant calls at area housing office and informs the counter clerk

* Tenant calls at area depot and informs clerk or foreman

* Tenants writes a letter to area housing office or area depot

* Tenant telephones area housing office, area depot, or centrally based housing repairs inspector

* Housing officer notices a defect and reports it to area depot or housing repairs inspector

* Councillor writes or telephones housing department on behalf of a tenant

The precise method of raising a request varies depending on the authority's procedures. Some do not permit direct contact between tenants and depot staff whereas others do, in order to keep the communications chain as short as possible. The advantages of direct contact are:

* The tenant can be questioned for further details by a clerk or foreman with relevant technical knowledge

- The likelihood of a distorted description of the job is reduced

- The depot is informed more quickly of the defect and this is likely to be more satisfactory from the tenant's point of view in terms of a positive response

- The depot is more likely to obtain reliable details of access times.

- Paperwork can be simplified

The principal disadvantages associated with direct contact between tenant and depot are:

- Depot staff may have their work interrupted by tenants chasing their individual requests.

- Housing department staff are not aware of the details. This could lead to confusions in communications and abdication of the property management role, particularly in regard to property records. (However, this disadvantage could be avoided in a large authority with a computerised job ticket system and where housing department staff had VDU facilities and hence immediate access to work input).

- The DLO is in the position of writing out orders for itself. This may now have disadvantages in terms of the client/contractor relationship, especially if the DLO also raises orders on contractors, but it may be the only practical method in existing circumstances, if staffing is not to be increased.

6.2.2 Information needed

DLOs frequently complain that the information they receive is garbled, misleading or insufficient. This may be because there has been insufficient technical input or simply because full details were not requested of the tenant when the defect was reported. If housing officers, counter clerks or rent collectors were issued with a checklist, it could include the following points:

- Tenant's name and address

- Telephone number

- Convenient access times for inspection or repair

- Exact location of defect (exterior, interior, room, wall, ceiling, appliance)

- Nature of defect and type of material affected

- Whether defect has been reported previously

- Date of request

6.2.3 Repair request documentation

Some councils provide repair report notes or cards for their tenants, to make it easier for them to report defects out-of-hours, for example by dropping the card into the depot letter box, and also in the hope of receiving better formulated information because there are headings under which details can be written. Other authorities, on the other hand, make it a matter of policy not to provide such forms because it is felt that tenants need no encouragement to report defects.

In some authorities tenants are given a receipt when a defect is reported. Sometimes this is purely a public relations exercise - the tenant is given the receipt without any reference number and the counter clerk does nothing with his copy of the counterfoil (the request is of course reported through the system) - and its value is questionable. But if the receipt bears a reference number, it can be used if the tenant returns later enquiring about the progress of his complaint. However, the use of receipts increases the paperwork and related clerical effort, representing a hidden additional cost to the maintenance service.

The recording of the request itself by the person receiving it can take three forms:

- It may be recorded in an exercise book from which orders are subsequently raised. This method is suitable for small depots where one or two staff can keep track of requests without being overburdened.
- It may be recorded directly on to a works order form. This method is used both by client departments and by DLOs raising orders on themselves. In one case in the study the fourth copy of the order is used as a receipt and given to the tenant (or retained for him to collect in the case of telephoned requests)
- It may be recorded on a repair report form or repair request form as an intermediate stage before being translated into a works order or job sheet, which may then follow an inspection for clarification or bonus targeting purposes

Table 6.1 shows the variations found in the study sample for dealing with housing repair requests. Where no repair report is completed by council staff, the repair request is entered directly on to the works order form. Only one authority in the sample used a separate form for requesting inspections but in another, the request for an inspection was indicated on the repair report (termed a works order in this authority, as it was used to key details into the computer for automatic production of the job card).

Table 6.1 Documentation for housing repair requests

						Job card / Works order	
Case reference	Type of authority	Type of DLO	Receipt to tenant	Repair report completed by:	Separate inspection request form	Raised by	Number of copies
A	LB	In-house	No	None	No	Depot Clerk (DLO)	3
B	MB	In-house	Yes	Repairs Clerk	Yes	Repairs Clerk (admin)	3
C	DC	General property	No	Repairs Clerk	No	Job Assessor (client)	3
D	DC	Works department	No	Housing Repairs Inspector or Housing Officer	Indicated on repair report	Computer (client)	4
E	MB	In-house	4th copy of order	None	No	Repairs Clerk (client)	4
F	DC	Works department	No	Foreman in exercise book	No	Foreman (DLO)	2
G	LB	General property	No	None	No	Housing Assistant (client)	5

6.2.4 Putting the request into technical terms

This is one of the most crucial areas in ordering maintenance work and one of the most difficult to pin down in terms of responsibility. Some clients would argue that providing they give basic details to the DLO, then it is for the DLO to decide exactly what work is required, the quantities and type of material and suchlike. Some DLO managers would counter with the proposition that the client should define the work in technical terms, specifying fairly exactly the work required (for example against schedule of rates items), otherwise, if there is to be no approval of estimate before execution of work, the DLO is being given almost a blank cheque.

The steps in the process are as follows:

- Step 1: define the work in general terms
- Step 2: provide an exact technical description of the work
- Step 3: take measurements and assess the materials required for the work
- Step 4: assess the time needed for the work (ie bonus targeting)
- Step 5: estimate the cost of the work
- Step 6: accept the estimate and order the work

It is generally accepted that steps 1 and 6 are the client's responsibility and steps 3, 4 and 5 are the DLO's responsibility. Step 2 is in some cases carried out by the client department or technical control unit, and in some cases by the DLO. In some cases it is a matter of contention between DLO and client as to who should be responsible. Sometimes step 2 is combined in one operation with steps 3 and 4. If the client does not undertake step 2 he cannot logically carry out step 6 because he has not defined the work and is therefore hardly in a position to know whether the estimate is reasonable. If, as in many cases, DLO charging is on a rate per productive standard hour or bulk estimate basis, the client may feel he has no need to define the work because he has to accept whatever charge is made. Nonetheless in a client/contractor relationship it is the client who ought to be carrying out step 2, or taking responsibility for it.

The way the situation is dealt with in the various cases in Table 6.1 is as follows, with the party responsible shown in brackets:

- Case A (In-house DLO): where necessary the depot clerk writing out the order is advised by a DLO foreman or chargehand, who in some cases makes an inspection (DLO)
- Case B (In-house DLO): unclear requests are submitted on a request-for-inspection form by the repairs clerk to the district superintendent. One of his staff reports back to the repairs clerk who then writes out the order (DLO)

- Case C (General property DLO): Repairs clerk passes repair request to area job assessor for pre-inspection and specification of repair. Assessor then completes job sheet (client)

- Case D (Works department DLO): Housing officer or housing repairs inspector passes repair request to technical services works control unit with indication if inspection is required. Works control unit assessor clarifies description and/or inspects, before passing request to VDU operator to key into terminal for computer production of job card (client or client's representative)

- Case E (In-house DLO): Repairs clerk passes details of unclear requests to maintenance inspector for pre-inspection and elucidation (client)

- Case F (Works department DLO): Foreman receiving the request inspects if necessary (DLO)

- Case G (General property DLO): Area foreman pre-inspects to clarify unclear orders received from housing assistants (DLO)

Generally if the DLO clarifies the request or pre-inspects for this purpose at the same time as measuring up (if this is necessary), the cost is borne as part of the DLO overheads; however, in some cases DLOs have special rates for pre-inspection on behalf of the client.

Practice is far from uniform on this issue and each authority is finding its own solution depending to some extent on the staff it has available. If a client department has repairs inspectors or surveyors it should use them to ensure that orders are clearly and properly expressed. If it does not, then the DLO may have to redefine the orders; but if it does so, it should ensure that it bears no more than its fair share of the costs involved. It will be appropriate in most cases, if there is no technical vetting of orders by or on behalf of the client, for the DLO to make a charge for its inspections. However, this will also depend on the extent to which it needs to pre-inspect for bonus targeting purposes (See Section 7).

6.2.5 Property records

At some stage in the initiation process it is universal practice that reference is made to the property records, many authorities recording both date of initiation and date of completion. The purpose is twofold:

- To provide an ongoing record (albeit in very abbreviated form) of work undertaken to each dwelling

- To ensure that works orders are not duplicated

To be fully effective in meeting the second aim, the entry should be made on the house card as soon as the request is received. However, this is not always the case in practice. In some authorities the check is not made until after the order is raised because this is the way the system works; in others the check is made after the job is in the pipeline, because the recording of jobs on house cards has fallen behind. Both these drawbacks may be inevitable with manual systems, but if a computer system with VDUs is in operation, reference can be made to house records immediately a repair request is notified.

6.2.6 Works order

The responsibility for raising works orders (sometimes known as job cards or job sheets) is indicated in Table 6.1 for the sample. It is generally a function of the client but in one case the repairs clerks responsible are in the administration section, a shared overhead.

In accountability terms under the framework implied by the Act, it would appear not to be right for the DLO to raise orders on itself. However in one of the example cases the situation is not so straight forward because the managers in charge of the clerks raising the orders also have the function of deciding which of the orders are to be carried out by the DLO and which are to be given to contractors. The raising of orders by the DLO itself does have one important advantage: the chances of an incorrect or distorted order are much reduced. In both cases in which the DLO raises the orders, the repair requests come direct to it.

The information necessary on the works order is that listed for the job request (see Section 6.2.2) and in addition:

- Job number
- Date of issue
- Property reference number or rent account number (for computer systems)
- Client cost code
- Additional information on repair (after inspection)
- Whether cost is recoverable from tenant or other source
- Priority rating
- Estimated cost

Depending on the administrative arrangements, the order will have spaces for the DLO to add its own information as the order is processed, for example:

- Depot and trade code
- DLO expenditure code
- Materials requirements and/or stores requisition numbers
- Target hours
- Actual hours, allowances, lost time
- Operative's name
- Foreman responsible
- Details of extra work
- Details of abortive calls
- Details of travel
- Date of completion

The extent to which the DLO adds this information to the works order depends on the extent to which separate time sheets are used to convey the costing information through the system back to the client's account. If the works order is the main channel for this information, then there needs to be a separate reconciliation between each operative's hours worked, as abstracted from the works order, and his clock hours.

The number of copies for works orders caries, as indicated in Table 6.1. The uses to which they are put are indicated below.

* Case A (In-house DLO): Copies 1 and 2 to job assessor for targeting. Copy 1 to operative who completes details of time, then to bonus surveyors and finance department. Copy 2 to foreman. Copy 3 is retained by area technical officer as indication of depot workload.
* Case B (In-house DLO): Copy 1 to finance department to initiate costing process. Copies 2 and 3 to DLO for addition of bonus and time information and subsequent costing.
* Case C (General property DLO): Copy 3 retained by DLO as record of work ordered. Copies 1 and 2 to DLO for addition of bonus and time information and subsequent costing.
* Case D (Works department DLO): Copy 1 to foreman and filed by DLO on completion, Copies 2 and 3 are used as stores requisition and issue documents. Copy 4 to operative and returned to client's representative (works control unit) on completion. (Time and bonus details are entered on operative's daily work sheet).
* Case E (In house DLO): Copies 1 and 2 to depot; copy 1 to operative and returned to area housing ofice of origin on completion. Copy 2 retained at depot. Copy 3 retained at office of origin and used to assess orders outstanding. Copy 4 given to tenant as receipt (or retained until completion in area housing office). Costing is via operatives' timesheets.
* Case F (Works department DLO): Copy 1 is given to the operative by foreman who raises it and it is filed at the depot on completion. Copy 2 is used to transfer details to house records and then destroyed. Costing is via the operatives' timesheets.

Case G (General property DLO): Copies 1, 2, 3 and 4 to technical administration unit (TAU) and copy 5 retained in housing office. Copy 1 is targeted and passed to the operative. Copy 2 retained by TAU and matched with copy 3 on return from depot after completion, for abstraction of details for costing. Copy 4 filed at depot.

It can be seen from these brief examples that the works order is used in a number of varying ways and fulfils different functions for different departments:

* To instruct the operative in the work to be done
* To enable the client to be charged
* To assess the cost to the DLO
* To prepare statistics on work completed and outstanding
* To update property records
* To indicate job completion
* For use for materials requisition and issue

Apart from the single example of the use of the works order for stores issues, the major difference in practice between authorities is whether the works order has time and bonus details added so that it may be used in the costing process (other than being simply a reference number for charging). It may be noted that both the works department DLOs use separate timesheets for costing and charging.

It could be argued that it is preferable for the works order to carry the bonus and time information because there is then a greater incentive for operatives to return completed job cards quickly (except when they know they have performed badly) and the cost of an individual job can be relatively easily traced should this be necessary. However this does entail some regular means of checking each operative's clock hours against the aggregate of hours booked against jobs, a process that is virtually automatic when timesheets are used as the main means of costing and charging. In any event the operative's timesheet cannot be dispensed with because first-line supervision needs a documentary record of each man's work and his whereabouts.

An issue of relevance to authorities which make prior estimates for responsive maintenance jobs is whether the estimate should be entered on the operative's copy of the job card. The view may be taken that operatives might misunderstand the estimate, perhaps confusing it with a target for bonus purposes, or otherwise abusing the information. However, the counter-argument is that the visible existence of the estimate may encourage both operatives and foremen to become more cost conscious, if backed up by explanations of the DLO's trading role.

A feature of the computerised works order system in the study is the facility to enter a planning time for the job: this is an approximate estimate of the man hours involved and is used for DLO workload planning. This is potentially an extremely valuable management tool, particularly if there is a cyclic planning system for responsive maintenance (see Section 9.1.4), and provides a much better assessment of work outstanding than simply a count of orders issued but not yet completed. On the printed job card the planning time is omitted for the same reasons as the estimate, to avoid it being used as a target by the operative.

In some cases works orders for jobs below and above certain values are distinguished in some way, eg by colour or format. The reason is either because higher authority is needed for the order, or to highlight the larger orders so that their costs can be individually monitored.

6.2.7 Priorities

Apart from out-of-hours emergency requests (see Section 10), some authorities have a method of formally categorising orders, whereas others leave it more to the discretion of the depot foreman allocating jobs. Examples of categorisation are:

- Completion within three days/three weeks/three months
- Attention within 24 hours/two weeks/six weeks/four months
- Completion within one week/seven weeks/twenty weeks
- Emergency/normal

Some method of giving priority to urgent jobs is clearly essential and these are often treated in a different way. For example orders may be telephoned to the depot with the written order to follow; this entails some kind of exercise-book logging system to record receipt of calls. Or the urgent jobs may be excluded from the prior estimating system.

The judgement as to what comprises an emergency order is usually left to officers rather than being formally codified, as it is a function of the tenant's circumstances as well as the work itself. An ill-fitting door could be an emergency for a frail elderly person in a draughty house, whereas it would be simply an inconvenience to a childless young couple. It is probably better to leave the decision to officers' discretion rather than trying to codify to meet every different circumstance, so long as the system is being monitored for abuse. If it is found that orders are being categorised as emergencies by hard-pressed housing officers in order to accelerate repairs in the queue because the DLO has a large backlog and tenants are vociferous, then the arrangements should be examined.

Nonetheless, even if repair categories are not rigorously defined, some classification is useful for planning purposes, again particularly if a cyclic planning system is being considered or used. It is useful for foremen to be given some kind of guidance as to which jobs should not be dealt with simply on a first-come, first-served basis (and under the new operating framework it should not be left to the foremen to make this decision; it is a function of the client), but the categorisation of jobs should not be so rigid that it inhibits proper planning and flexibility in the use of resources.

Another dimension to the issue of priorities is the extent to which councillors can and do influence them. In general they do not (and should not) interfere in the day-to-day running of the DLO, that is to say, the general priorities, but sometimes a particular case is taken up by an individual member for one reason or another, and this so often becomes a 'cause celebre' in the local newspaper. Whilst this may be justified in some cases, it is perhaps worth considering that this can divert staff resources in a way that bears no relation to the real importance of the case compared with the need to maintain the rest of the service.

Where a DLO has a number of clients, who each assign priorities to their jobs, the DLO, or the technical control unit representing the client, will still have the task of balancing priorities between the various clients. It may be necessary for the council to define a policy on this in order to avoid the DLO being subjected to extreme and conflicting pressures. In one of the sample authorities the council confined itself to the guidance that first priority should be given to repair of vacant houses and second to other housing repairs. It is however important to consider, in issuing policy guidelines, whether the DLO's flexibility to operate in a commercial manner is being unduly constrained.

6.3 RESPONSIVE MAINTENANCE: NON-HOUSING

This naturally has a good deal of similarity with housing maintenance, both in character and in the administrative processes, but there are a number of important differences:

* Clients are not necessarily confined to the DLO's own authority; there may be agency arrangements
* The work is less repetitive and may call for more flexibility among tradesmen and greater variety of materials
* The volume of orders is much smaller
* It is rare that councillors intervene in individual cases

6.3.1 Job request

The request is usually made direct to the DLO, or to the technical control unit that acts as the client's representative for a general property or works department DLO; the request may be as a telephone call from the caretaker or person responsible for use of the building, or as a works order.

When the request is made by telephone, the details are logged, and preferably the person making the request either quotes a works order number, or the unit receiving the request allocates the job numbers and quotes the next one on the list for the person making the request to put on his order. It is most important that this interchange of numbers takes place, and that there is a method of checking that all telephoned requests are followed up by official orders, otherwise the DLO will not have a client code against which to charge the job.

6.3.2 Technical involvement

There is a greater likelihood that a repair request for a public building or another authority will have a technical input than for housing. Orders for public buildings may emanate from a section of estates surveyors, or at least from a caretaker who probably has a fairly intimate knowledge of the building concerned. Orders for schools or social services buildings may be issued by building inspectors or an architect's department. There is therefore a greater likelihood that the client's responsibility for providing an exact technical description of the work will have been properly fulfilled. However, any DLO which is undergoing organisational change in the wake of the Act should try to ensure that this is the case under the new arrangements, or that it is entitled to make a charge for a technical inspection.

6.3.3 Works orders

There is no reason for the information required for works orders, or their format, to be markedly different from those for housing, although there may well be variations of detail.

It is likely however that the average job value for responsive work is higher than for housing and where non-technical staff make the initial request, it may be appropriate to build in a checking process to ensure that expensive repairs are not authorised in instances, where for example, it may be more appropriate to carry out a major repair in next year's programme rather than a make-do-and-mend job this year. For example, with one DLO in the sample, school headmasters could authorise work up to £75; above this limit a different type of order was raised by the county architect's department, or in the DLO's department, and above £400 another type of order was raised by the county architect's department, the differences being in coding. This hierarchical method of distinguishing orders of different values introduces complexity into the system for those operating it, and the possibility of having to change or re-allocate a job number of a different series if it is found on inspection that, for example, a job that was thought to be below £75 is in fact going to exceed that limit.

Where a DLO has a number of clients, either in its own authority or outside, it eases administration if a common format for works orders can be agreed with all clients and for all types of work. However, it is useful if there is also some easy means of distinguishing between orders of different clients, by colour or by prefix code or block of job numbers.

The purposes to which general property works orders are put are much the same as for housing, except that it is rare for comprehensive property records to be maintained in the same way. Although the need for avoiding duplicate orders is much less likely to exist, it is surprising that there seems to be so little interest in maintaining a proper property record for non-housing buildings. In fact it is difficult in some cases to establish even such basic facts as the number and type of buildings which the DLO maintains. The compilation of such a register is a client responsibility but it should also be available for the DLO's use.

6.4 PLANNED MAINTENANCE, IMPROVEMENTS AND MAJOR REPAIRS

Work of these types includes:

- External and internal cyclical decoration
- Servicing of lifts, heating, ventilation and electrical appliances
- Programmed replacements, eg roofs, plumbing, window frames
- Major repair work, eg structural defects
- Programmed improvements, eg loft insulation, upgrading of kitchens, heating installations

Such work should be included in a client's annual estimates on a scheme by scheme basis after a study of property records, or survey, or information fed back from maintenance supervisors. Although the DLO, by virtue of its historical situation, may have an input to this process, it is strictly a function of the client or his technical representatives (the officers in the technical control unit are often the means by which the DLO voice is heard). The decisions on priorities between schemes are those of the client and ought not to be influenced by the DLO's overall workload requirements nor the balance of work required for its individual trades unless these considerations can be shown to outweigh, in terms of value-for-money to the authority as a whole, considerations relating to the conditions of the buildings themselves or the needs of their users. Put bluntly, there would have to be a very good reason for giving a painting programme priority over roof replacements, if the roofs were in need of repair but the DLO painters were short of work.

The larger repair jobs and programmed work should be specified and proper documentation prepared by a surveyor or other officer with appropriate technical expertise. He will need to make an estimate to get the scheme into the annual programme, and before the work is allocated to the DLO it should submit its own estimate, either in competition or not, depending on the council's financial regulations and the statutory level at which tenders must be invited. Fortunately it will no longer be possible for a DLO to be in the position of trying to control job costs against an estimate prepared up to 18 months previously by an officer outside the DLO itself; which was frequently the case, prior to the implementation of the Act.

6.5 REPAIR OF VACANT DWELLINGS PRIOR TO RELETTING

The need to deal with repairs to void properties represents a demand for resources in competition with routine repair and maintenance; it is sometimes found that voids works have been treated as "hospital" jobs. Because of the political and economic importance of keeping the number of vacant properties as low as possible, some authorities have evolved special procedures for identifying and dealing with them, including, in some cases, setting up special voids repair teams at depot level.

Because repair of voids may involve at least two departments and is likely to require the services of several trades in the DLO, it is a function that needs careful co-ordination and control. It is necessary to identify key activities and those responsible, and if possible to set target timescales for each activity so that the whole scheme can be contained within a reasonable period. It is useful to have one person (or section for a large workload) to look after the timing of key activities, progress chasing and finding the reasons for delays whenever possible. A typical set of key activities and those responsible are shown in Table 6.2. In some cases, particularly with works department DLOs, the client is represented within the DLO's parent department by a technical control unit through which the orders are channelled and which safeguards the housing department's interest.

Table 6.2: Activity checklist for voids repairs

Activity	Responsibility	
	Client	DLO
Notify void	Housing officer	
Make secure		Depot
Inspect gas, electrical, heating and hot water installations and make safe		Electrical and heating sections
Inspect and prepare specification and schedule of works	Housing repairs inspector or technical control unit	
Prepare estimate (including bonus targets)		Estimator
Issue works order	Repair inspector or technical control unit	
Pass keys to DLO	Housing officer	
Plan and co-ordinate the work of each trade		Depot supervisor and foremen
Inspect on completion		Depot supervisor
Notify completion and pass keys to housing department	Technical and/or control staff	Depot supervisor
Inspect and accept at handover	Housing repairs inspector	

The target timescale for processing the void property will vary depending on decisions made regarding the work to be done. The main options, with examples of target timescales in brackets, are:

* No decorations by the council and repairs undertaken after reletting (Target 6 days)
* No decorations by the council but repairs undertaken prior to re-occupation (Target 24 days)
* Decorations and associated repairs by the council (Target 35 days)
* Major repair work and redecoration (Target depends on extent of works)

One of the potential snags in the process is the definition of work to be done. Sometimes there is a conflict of interest between housing management, whose desire is to have the dwelling available for reletting as soon as possible, and the housing repairs inspectors, whose main concern is to preserve the housing stock and who wish therefore to have as much necessary work as possible done to the dwelling whilst it is vacant. It may be necessary for guidelines to be formalised to avoid arguments on this subject constantly recurring.

Another point of occasional difficulty is in the handover process. Sometimes the handover inspection on behalf of the housing department is done by a housing officer rather than a repairs inspector or surveyor. This may lead to calling back the DLO when the dwelling is in occupation to rectify a defect discovered by the tenant in use, rather than it being noted and rectified before formal handover.

6.6 WORKS ORDER STATISTICS AND MONITORING

All authorities prepare statistics on works orders at least monthly and very often weekly. These are required by the DLO as an aid to management in its deployment of resources, by the client department in order to assess the service it is receiving, and by the technical control unit (if it exists) to assess its own performance and that of the DLO. The requirements of the three parties vary, but usually with manually prepared returns, only one type of return is made which serves all users, because this is the most economical way. If however a computer system is in operation for works orders, printouts can be made available to suit different needs.

6.6.1 Requirements of client

This section is concerned mainly with housing departments. In order to monitor the service from the DLO (and contractors if these are used to a significant extent), information is needed on a regular basis for each of the following categories:

- Housing management area
- Maintenance work category in the budget (eg roofs and guttering, internal joinery)
- Priority category (eg emergency, normal)

The relevant statistical information (ie count of works orders) in each of these categories is:

- Number of incompleted orders brought forward from previous year report
- Number of orders issued during this reference period
- Number of orders completed during this period
- Number of orders outstanding at end of this period
- Number of orders issued this year to date
- Number of orders completed this year to date
- Number of outstanding orders out of time (ie outstanding for longer than the target for the priority rating)

It is suggested that the client will not need this information more frequently than monthly and it can then be related to expenditure statements. For repair of void properties it would also be useful to have details of the average time taken to complete a job; this could be extended to responsive maintenance jobs if a computer system is being used. With this information housing management in each area will be able to monitor progress to ascertain whether:

- Priorities are being satisfactorily met
- Backlogs in particular maintenance categories are increasing or decreasing
- Numbers of orders to date are significantly different from previous years (allowing for adjustments to stock)

The information can be used to exert pressure on the DLO if performance is slipping, and to give information to councillors. The data must be used, if its compilation is to have any value, and if particular aspects are not of interest, then they ought to be dropped to save administrative time and effort.

6.6.2 Requirements of DLO

The DLO will wish to monitor the service it is giving and have information readily available to assist in planning its workload. The workload planning ought to be on a weekly basis, whereas monitoring the service need only be monthly. However, the information needs to be structured for the DLO's needs. For monthly and weekly returns the statistics will be categorised for:

- Each trade in each depot
- Each trade as a whole
- Total for DLO

For each of these categories, the weekly returns should include:

- Number of uncompleted orders brought forward from previous week
- Number of orders received this week
- Number of orders completed this week
- Number of orders outstanding at end of this week, preferably by age
- Planned man hours outstanding at end of this week (if this information is available; see Section 6.2.6)

This will indicate for each trade and depot whether the backlog is increasing or decreasing and using these trends labour and supervision can be redeployed, if necessary. However, this should be on the basis of a pattern rather than a single week's results.

The monthly returns should include the following information for each client (or housing area for the housing department) and each priority category:

* Number of uncompleted orders brought forward from previous month
* Number of orders received this month
* Number of orders completed this month
* Number of orders outstanding at end of this month
* Number of orders received this year to date
* Number of orders completed this year to date
* Number of outstanding orders out of time
* Number of orders that have been outstanding 2, 4, 6, 9, 12, 15, 18 weeks (or other suitable intervals) from date of issue (this information will be readily available only with a computer system)
* Average time to complete an order from date of receipt to completion (computer system only)

Some of these monthly details are simply a consolidation of weekly information and others give a measure of the service. If it is not possible readily to ascertain the average time to complete orders, a rough measure that can easily be calculated is the average time taken to deal with the backlog, which is:

$$\frac{\text{Number of orders outstanding at end of month}}{\text{Number of orders completed during the month}}$$

However if planning times are used, a much more accurate assessment of the time needed to deal with the current backlog is possible.

6.6.3 Requirements of technical control unit

If there is such a unit between the client and the DLO, it will probably need to have both sets of monthly information, and depending on its precise role, it may also need the DLO's weekly returns. If the unit is also responsible for using a schedule of rates to make an estimate for each responsive maintenance job, it should keep weekly records of numbers of orders awaiting estimate, and numbers of estimates and inspections made.

6.6.4 Use of the information

Preparation of the statistics described above may represent a significant amount of clerical work if manual systems are used, and the cost of this needs to be considered in relation to the use made of the information. If it is not used, then there is little purpose in preparing it. However if an authority is not making use of such information, it may well question whether, if it were to do so, it would be in better control of its maintenance system, both from the client and DLO viewpoints. The details described above do represent an attempt at defining best practice, but it may not be practical for an authority to achieve the recommended degree of separation between client and DLO information. In this case it will need to consider carefully how best to merge the two requirements and produce only one set of information.

6.6.5 Control sheet

One method of monitoring orders used by a general property DLO, and probably suitable only for non housing buildings for which the volume of works orders is not too large, is the use of a control sheet for each first line supervisor. As orders are received by the DLO administration they are sorted into the trades or geographical areas for which individual supervisors are responsible and entered on to the control sheet of each supervisor. The supervisor records on the sheet the orders allocated to each operative and dates of receipt and completion of each order. He can thus keep a close control on the work he has allocated and the DLO manager can liaise with each supervisor over the amount of work he has outstanding at any one time; this enables him to spread the load more evenly between supervisors.

6.6.6 Progress chasing

DLOs with a substantial backlog of housing repairs frequently encounter the problem of trying to ascertain the current situation on a repair request which entered the pipeline some weeks previously, and the tenant is asking, either through the housing department or the DLO direct, when the job is likely to be done. With manual work ordering and recording systems this is particularly difficult, and much reliance has to be placed on the goodwill and good memories of individuals; the small local depot is at an advantage in this respect. If such questions cannot be answered, ill will may be generated among tenants and council members may become involved if they are not already.

With a satisfactorily operating computerised system which has visual display units in housing management offices, such a question may be relatively easily answered, providing the system has markers for key points in the progress of an order. Such a system is discussed in Section 9.1.4. However the majority of authorities are having to deal with the problem of progress chasing on a manual basis. One method which can ease the communications process is to designate one or two officers in each housing area and a clerk or supervisor at each depot to deal with progress chasing at their respective ends of the chain. This would clarify responsibilities and help to ensure that enquiries about progress were not left in the air.

7. PRE-INSPECTION

7.1 RESPONSIVE MAINTENANCE

7.1.1 Purposes of pre-inspection

Pre-inspection is necessary for a number of purposes, some for the client, and some for the DLO (or contractor). These are:

* To define the work precisely, determine technical specifications and the desired quality of workmanship
* To assess a bonus target for the job
* To measure up for ordering of materials
* To assist in the planning and allocation of work
* To enable an estimate to be made

7.1.2 Responsibility for pre-inspection

Precise definition of the job should be the client's responsibility, as discussed in Section 6.2.4, but in some cases this is done by the DLO. If the latter is the case, then the client has abrogated his right to define the work required and has to pay for whatever the DLO claims. The same would apply if a private contractor were to be employed to carry out undefined work, but this would not be good practice . If the client's building inspector is involved in pre-inspection, he has greater control over the work charged for (eg he could order the repair of a door rather than its replacement), and the opportunity could also be taken to update property records. The other purposes noted above are primarily DLO functions, but in practice some are occasionally carried out by the client or the technical control unit.

Inspection on behalf of the DLO should be by the foreman or chargehand as this ensures greater control over the workforce. However, with a large volume of repairs, the proportion of jobs pre-inspected may be very low and confined to difficult or multitrade jobs. In some authorities the operatives themselves pre-inspect jobs. This has the advantage that supervision time is not spent in paying visits to routine jobs simply to assess bonus targets and measure up for materials. But there are significant disadvantages; the pre-inspection time will be eligible for bonus as non-productive time and because of this it will be open to abuse - operatives may choose to make more pre-inspections than are necessary, because it is an easy way of earning bonus.

In authorities where jobs are pre-targeted by assessors rather than post-targeted by the operatives themselves, there may be a substantial number of inspection visits by the assessors; this can represent a significant cost on the DLO overheads and is also inconvenient to tenants because it is another occasion for which they have to arrange access (this also applies to pre-inspection by operatives). Pre-inspection, whether by supervisors or operatives, adds to the timescales for completion of jobs, as well as costs.

7.1.3 Pre-inspection practices

The variety of pre-inspection practices in the sample authorities is illustrated in Table 7.1. There can also be wide differences between pre-inspection rates for different trades; for example, from 5 percent for glaziers and 30 percent for plumbers and heating fitters, to 70 percent for carpenters and 85 percent for bricklayers and plasterers.

It can be seen that there can be overlapping of inspections by DLO and client, though this may not necessarily occur with the same jobs. I may also be noted that, in the sample at least, the use of pre-inspection to establish bonus targets occurs extensively only in one DLO, although it is used to some extent in three others.

The amount of pre-inspection varies with the type of work and trade involved. It is likely that more pre-inspection will be necessary for public buildings than for housing, because more one-off jobs will occur. As far as trades are concerned, painting work is most frequently pre-inspected; it is easily measured. Plumbing jobs are often not pre-inspected owing to the urgent nature of many of them. For joinery a fairly high rate of pre-inspection may be necessary to ascertain the sizes of timber required and the precise nature and extent of the work necessary.

7.1.4 Factors affecting pre-inspection policy

In evolving or rethinking a pre-inspection policy for responsive maintenance, an authority will need to weigh a number of factors:

* Pre-inspection for bonus targeting purposes is expensive, extends timescales and can largely be avoided by having a strict spot check system for operatives' claims (but see Section 15 for a discussion of wider issues relating to bonus schemes). However it is often the case that the element of pre-inspection devoted to assessing the materials required for the job (a vital element) takes more time than evaluating bonus targets. The need for pre-inspection may be reduced if bonus schemes can be simplified, for example, by reducing the features which have to be measured or the factors which have to be ascertained before targets can be fixed.

* Overlapping inspections should be avoided; it may be appropriate for the DLO to inspect on behalf of the client and charge for the service, provided the client is content to delegate to the DLO the decision on the extent of repair to be undertaken

* Responsibilities for inspections for differing purposes will need to be clearly defined

* The views of the auditors on the extent of pre-inspection that is appropriate for local circumstances and the characteristics of the workforce.

* In cases where pre-inspection for bonus targeting and defining the work are the same operation, the cost of inspection should be split equally between the client department and the DLO.

Table 7.1 : Pre-inspection for responsive maintenance

Type of authority	Type of DLO	Pre-inspecting department	Pre-inspection by	Whether for bonus targeting	Approximate pre-inspection rate
LB	General property	DLO	Foreman, chargehands	Some trades	Under 20%
LB	In-house	DLO	Chargehand assessors	Yes	Over 50%
MB	In-house	DLO	District superintendent or foreman	No	Not known
DC	General property	Housing department	Area job assessor	Yes	Under 50%
DC	Works department	Housing department	Repairs inspector	No	50% to 60%
		Works control unit	Estimator	No	Not known
		DLO	Foreman	No	Small
MB	General property	DLO	Foreman	No	25%
			Operatives	No	Not known
MB	In-house	Housing department, technical services section	Maintenance inspectors	No	Not known
DC	Works department	DLO	Foreman	No	50%
LB	General property	DLO	Area foreman	No	Not known
CC	General property	Parent department, technical services section	Maintenance surveyors	No	Not known
		DLO	Pre-measurers, foreman	Yes (in part)	Varies with trade

7.2 PLANNED MAINTENANCE, IMPROVEMENTS AND MAJOR REPAIRS

The situation is fairly straightforward for this type of work - both client (or client's representative) and DLO will need to inspect. The work is usually of a scheme nature and is planned well in advance, forming part of the annual expenditure programme. The client inspec to update the property condition records, to decide on the work to be done and in order to prepare specifications and schedules of work. The DLO inspects to determine the actual conditions in order to prepare its estimate, and subsequently for the purpose of bonus targeting (if not done at the estimate stage), and planning the job in detail.

7.3 CONTRACTORS

If contractors are used to a significant extent for maintenance work an authority needs to decide how it is going to relate pre-inspections for contractors and the DLO. There ought only to be one system for both, so that after work has been pre-inspected and defined by the client, it is immaterial whether it is allocated to the DLO or a contractor. However, custom and practice may have induced looser arrangements for instructing the DLO because it is part of the same overall organisation, and blurred responsibilities are of less consequence. With the new framework for operations under the Act, attitudes such as this will have to be changed, so that the DLO is given just as clear information as would be a contractor; in other words the client's pre-inspection arrangements should be the same for both.

8. ALLOCATION OF MAINTENANCE WORK

8.1 DIVISION BETWEEN PROGRAMMED AND RESPONSIVE MAINTENANCE

This is an area of policy which is within the client's functions, but because of the technical expertise of its staff members, the DLO is likely to have an influence on decisions. There are no rules that dictate the relative proportions of programmed and responsive work within the budget, but as a generalisation it may be said that the economies of scale inherent in programmed maintenance make it more cost-effective in the longer term than responsive maintenance. Therefore the greater the extent to which repair requests arising from breakdowns in the broadest sense (eg leaking roof due to slipped tiles as well as failure of plumbing or heating systems) can be minimised, the more money will be available for programmed work which has a longer term value.

As a principle, this is more easily enunciated than put into practice. One of the reasons is that maintenance has for many years been the Cinderella of construction expenditure and a vicious circle has developed. With the pressure on funds, major maintenance schemes have been relegated in favour of dealing with defects as they arise, and the postponement of schemes means that yet more breakdown defects will occur. It is not only lack of money that has contributed to this, it is also a shortage of suitably qualified staff to assess maintenance needs and prepare schemes.

In order to break out of the circle, three essential requirements have to be met:

- The council should make a policy decision to increase the proportion of programmed work
- Staffing may have to be adjusted to ensure that there are sufficient surveyors and building inspectors to determine and prepare programmes, and DLO supervision adequate to cope with the complexities of major schemes
- Arrangements should be made for the setting up and/or updating of a property condition record as a basis for maintenance programmes

8.2 PROPERTY DATA BASE

This can be a large area of consideration but this report is confined to discussion of the main principles and some of the important issues. Four types of record can form the property data base:

- As built record
- Condition record
- Maintenance and repair record
- Maintenance manual

8.2.1 As-built record

This forms the core of a maintenance data system. It records the basic details of each house or building: size, construction, fittings, finishes installations and services. When defects are reported, reference to the record can assist in gaining a more exact description of the fault and thus save time on pre-inspection visits. The records can also be used to help prepare programmes of maintenance. The form of the record is a summary of much of the information shown on building plans and specifications and should be completed at the time of handover of a building. With older buildings for which no handover records exist, as-built records can be developed as and when property inspections are made. An example of an as-built record for housing is given in Appendix 5, reproduced from Bibliography reference 8. This type of information is often not yet available for public buildings, although in many cases the DLO painting section will have comprehensive details of measurements. Gas and electrical sections of the DLO sometimes have adequate records of installations, houses rewired and suchlike.

8.2.2 Condition record

The only proper basis for maintenance programmes is the regular inspection of buildings to monitor their condition. At the same time defects may be noticed which have not been reported by tenants or building users. Surveys can be made more quickly with the aid of a checklist and this can then be retained as the property condition record. On subsequent inspections the new record should replace the previous one in the filing system. An example of a condition record and checklist for housing is given in Appendix 6, also from Bibliography reference 8.

8.2.3 Maintenance and repair record

This record describes work carried out on each building during the course of its life. The records may be used for analysis of maintenance faults on particular types of building and can highlight recurring defects which might indicate that maintenance of a programmed nature is due. However, the main day-to-day use of the record is to prevent duplication of works orders, particularly on housing. The information to be recorded should include:

- Details of defect and work instructed
- Works order number
- Date of order
- Contractor or DLO
- Date of completion
- Cost (if the system allows this)

Most authorities maintain this type of record for housing, as a house card, but it is by no means universal for public buildings.

8.2.4 Maintenance manual

This is a fairly recent development in construction information, and is a document which, like the as-built record, is prepared by the architect at handover, or on the basis of information supplied by him. It lists the elements of the building and indicates the intervals at which they normally require work to be done, or at least an inspection. Some authorities now make it a condition of the brief for architects on new housing schemes, that such manuals be provided. They will be a most useful aid in establishing maintenance programmes.

8.2.5 Location and use of the records

There are two potential users of the records. The client needs them to develop maintenance budgets and to avoid duplication of responsive maintenance orders. The DLO may need to refer to them to ascertain the details of a building, either type of construction or measurements. The responsibility for keeping the records is properly that of the client department and should not be a charge on DLO overheads. Nonetheless the DLO should have access to them, to avoid duplication.

Where possible it should be arranged that the records should be in one place and not duplicated. For housing, the appropriate location would be the area office for the maintenance and repair records, but the other records would need to be in the surveying section if that is located elsewhere. For public buildings it would be appropriate to keep all records in the public building surveyors' section. However, circumstances will vary with authorities' organisations. Wherever the records are maintained (and it may be appropriate in some cases to split them up), they should be available for the DLO to refer to whenever it needs to do so.

8.2.6 Computerised and manual systems

Most record systems hitherto have been manual and are clerical-intensive. This has discouraged the setting up of all the types of record mentioned above and aggravates the problem of keeping them up to date, particularly for housing where many thousands of individual records may be involved. The sheer volume and format of housing records whether in files or on cards, is a discouragement to their fruitful use.

The advent of computer systems with on-line terminals opens up new possibilities for building records. They can be rapidly updated, and client or DLO staff with access to a terminal can easily refer to the records. However, the path to this ideal is liable to be time-consuming and costly, and it should be undertaken only after careful specification of user requirements and co-ordination with all relevant departments, because a computerised property data base will interact with or impinge on a number of other systems: viz.

* DLO accounting
* Rent accounting
* Works order issue and monitoring
* DLO management information
* DLO stores (type of commodity stocked)

This opens up wider issues than are covered by this report: they are elaborated in Bibliography references 9 and 10.

8.3 ALLOCATION OF WORK TO DLO OR CONTRACTORS

This section describes the situation found in authorities at the time of the survey, prior to publication of the March 1982 Competition Regulations. Most authorities will have had to change their procedures to meet the new requirements, as discussed in Section 14.6.

8.3.1 Policies for responsive maintenance

Some authorities allocated almost all their day-to-day repairs to their DLOs, providing it was within the DLO's capabilities. Specialist work was often sub-contracted, such as felt or asphalt roofing, damp-proof course injection, floor and carpet tiling, scaffolding, and gas fitting. If peaks of work occurred in particular trades, this may also have been sub-contracted.

However, the general principle appeared to be to offer the work to the DLO in the first instance, although immediately following the Act some authorities were already rethinking this policy of giving the DLO automatic first choice, a course of action likely to have industrial relations implications.

Other authorities had a policy of deliberately keeping DLO manpower well below the level necessary to deal with workload peaks, in order to be able to employ contractors for a substantial part of the work. This would ensure that the DLO workforce is always fully employed and, with the appropriate analyses, enables comparisons to be made between the DLO and contractors on a like-for-like basis.

8.3.2 Basis of allocation to contractors

Where contractors were reasonably extensively used other than for a small number of specialist trades, examples of the basis for choosing between contractors and for deciding the work that contractors were to do were:-

* Work of a particular type was consistently offered to contractors eg repair of housing voids

* Every sixth job was offered to contractors on an approved list on a rotating basis (or at some other frequency, depending on the volume of work for contractors)

* Work in particular areas was offered to contractors (perhaps because it was uneconomic for the DLO to spread its resources too thinly)

* Work was offered to contractors at particular times of the year owing to other DLO commitments (eg concentration of DLO work in schools during holidays)

8.3.3 Programmed maintenance and major repairs

The allocation of this type of work was usually fairly straightforward. Specifications and schedules were prepared, against which the DLO could provide estimates, and also contractors if the work was offered for tender.

9 WORK PLANNING AND EXECUTION

9.1 RESPONSIVE MAINTENANCE

9.1.1 Traditional methods of planning work

The planning of day-to-day repairs is normally undertaken at depot level. The job tickets are sorted by the depot clerk into racks for the various foremen, who are responsible for particular trades or specific zones within the depot areas. The foreman then sorts the jobs requiring pre-inspection and allocates work to individual operatives, usually giving each man sufficient job tickets in the morning for the day's work, allowing for the possibility of abortive calls owing to the tenant being out or failing to keep an appointment. It is often left to the operative to decide the order in which he makes the calls, but the foreman should ensure that travelling is minimised. A number of criteria should be taken into account in planning the work:

* Priority category: if repairs have been assigned priorities, these should be observed. In some cases the foreman decides on the basis of his local knowledge of tenants and properties the jobs that are urgent or constitute emergencies.

* Date order and target time scales: as a rule jobs should be dealt with in the order they are received, unless there are other overriding considerations. This ensures reasonable equity between tenants and building users. If target timescales exist for particular types of repair these need to be taken into account.

* Location of work: so far as possible a day's work should be planned so that each operative is within a small zone and his travelling is minimised.

* Manpower availability: if particular trades are in short supply, their work will need more careful planning to ensure that urgent work is dealt with but does not become uneconomic in travelling time. If manpower is plentiful, DLO managers should ensure that planning does not become slack.

* Materials availability: before allocating the job to a tradesman, the foreman should ensure that materials are being delivered the same day or are available from stores stock if the operative has to collect them.

9.1.2 Delivery of materials

The ideal arrangement is for operative and materials to arrive at the site of the job at the same time. In this way there is no risk of the materials being stolen, and the operative will not be wasting time waiting for materials. A number of procedural arrangements can assist with this:

- Pre-preparing the materials in plastic bags for the operative to collect and take with him to the job.
- The foreman delivers the materials in his van to the operative when he knows he will be at the job
- Delivery of bulky materials from stores is arranged by the foreman to be more or less coincident with the operative's arrival at the job
- The operative, working from a van, carries his own imprest stock with him. This can be done by trades, such as plumbers and electricians, which are likely to need the same or similar components quite frequently.
- Allowing operatives to use their own cars so that they can take materials with them

The delivery of bulky materials such as timber, lengths of piping, or sanitary ware presents the greatest difficulty and requires careful co-ordination. Depending on the location, and whether or not security is possible, it is not generally advisable to deliver materials the day before they are needed. There is a risk of theft, or that the operative will not be available the following day for that job.

9.1.3 Travel by operatives

The method of travel depends on the depot location and the distances involved. It should always be arranged to minimise the overall cost, bearing in mind that a man's time at £6 to £10 per productive hour is considerably more expensive than most methods of travel. The various alternatives are:

- On foot: this is only economic for very short distances
- Bicycle: this is a useful method for slightly longer distances, e.g. on a large housing estate. It saves time compared with walking, and there are no parking problems
- Public transport: this is not a suitable method, owing to the unpredictability of arrival of buses and the high probability of time being wasted waiting and walking from bus stop to work location

* Operative's own car: this is a flexible method but needs suitable control to avoid abuse and to ensure that the vehicle is properly insured for work use and carriage of materials. Some auditors frown on the idea of council materials being in private cars at any time, and some councils forbid the use of private cars. If the use of private cars is official, operatives who do not have cars may feel they are being treated unfairly for bonus purposes.

* Council van assigned to the operative. This is the most flexible method and appropriate in rural areas where large distances are involved. It avoids the problems of insurance and control associated with operatives using their own cars, but the costs of acquiring and running the vehicle need to be carefully weighed against other factors.

* In foreman's van: useful on occasion but inflexible.

* Depot minibus: suitable only for transporting a number of operatives to the same site (but see section 9.1.4).

Operatives' travel mode is usually inextricably woven into the incentive scheme and in some authorities also to conditions of employment and the historical results of negotiations with the men's representatives. There are a number of possible ways of ensuring that the best use is made of men's time:

* In urban areas, if operatives are allowed to choose their own mode of travel, the method of reimbursement ought to be appropriate to the travel. (However, paying bus fares and public travel bonus allowances or walking time to operatives who use their own cars unofficially is considered by some authorities to be preferable to risking problems associated with oficial recognition that men are using their cars).

* The method of reimbursement of travel expenses and recording allowances should be as simple as possible, consistent with reasonable control. Compulsory production of bus tickets is likely to lead to friction with the work force and waste supervisors' time.

* A simple solution in urban areas is to include travelling time with the other work covered by targets; this gives the operatives more incentive to minimise travelling time. However this would not be appropriate for rural areas where distances to the job vary considerably.

* In rural areas a fixed allowance per mile could be granted, regardless of method of travel.

It may be noted that a cyclic approach to responsive maintenance (see Section 9.1.4) can eliminate many of the problem issues concerned with travel allowances and bonus, and in particular the need for operatives to use their own cars.

Practice varies as to whether men report back daily to the depot or hand in their completed job tickets at the end of the week, returning home directly each day after their last job. Supervisors can exercise greater control if men complete daily time sheets at the depot at the end of the day, and the operatives are prevented from abusing the system by leaving work early, but the advantages of this have to be weighed against the loss of productive time, if a depot has an extended operational area. Sometimes supervisors can clock men off at the job, particularly for certain trades such as painters. It would clearly be unacceptably costly for all the operatives of a DLO operating in a rural area to return to the depot each day, and in such instances it is better to trust the supervisors to make spot checks to counter any tendency to abuse.

9.1.4 Cyclic approach to responsive maintenance

In response to the pressures on costs and the likely need for many DLOs to become more efficient in order to meet the rate of return requirement, some authorities are adopting a more planned approach to responsive maintenance and a few have started pilot schemes. The principle is to allow orders to accumulate and then arrange for a gang of tradesmen to concentrate on each zone in turn within a depot's area, working from a mobile base which is in the zone for the duration of the work. An example of the timing cycle for a computerised works order system is as follows:

- Six week holding period during which all orders are held on the computer and then printed out in batches by zone.
- One week planning period during which foremen pre-inspect the jobs, order materials and plan the work. The holding period for the next cycle would begin at the start of this period.
- Two week period during which a multi-trade gang is resident in the zone, working on the jobs from a caravan base.

Because in this system each works order has a planning time estimate, it is possible for the computer, at the end of the holding period, to work out the aggregate planned hours for each trade and then establish the manning levels required for the four week period in the zone. The computer prints out the list of jobs by street which is sent to the depot with the job cards. The foreman or clerk notes the date each job is issued, started and completed and the tradesman to whom it is allocated. By this means, progress on any order can readily be checked.

Such an arrangement calls for fairly radical changes in working procedures, but if used correctly the system can have a number of advantages:

- Travelling time should be reduced
- Time lost in waiting for various reasons should be reduced

- Because operatives will be working in adjacent streets, closer co-ordination of multi-trade working is possible, with less inconvenience to tenants

- Foremen will be responsible for arranging access and so there should be fewer abortive calls.

- Manning should be better balanced to workload

- Foremen will have to put more effort into planning the work and will be able to supervise the operatves more closely, both with regard to work quality and their use of time

- Time is used more productively and operatives earn better bonus

- Pre-inspection can reveal necessary additional work not reported at the time the order was made and this can then be included, subject to the necessary authorisation procedures.

If planning times for each job are not available, a variation of the system is to adjust the length of working period in accordance with the demands of the jobs that have been aggregated for the zone. Another variation is to use crew cab vehicles as the mobile base which takes men and materials from the depot each day.

Such cyclic schemes are only suitable for non-urgent repairs and one of the problems, as a corollary of a cyclic scheme, is that of dealing with emergency orders. If a gang of mobile tradesmen with vans carries out emergency jobs exclusively, difficulties in manning can arise from unevenness in the pattern of receipt of emergency orders. Under the traditional planning method, the depot can respond to a rush of urgent orders by deferring less urgent jobs. With a cyclic system this flexibility is not so readily available, but it could be partly mitigated by having an emergency tradesman operating over a wider area than a single depot, or by manning the emergency team for peaks and then filling their time with routine jobs from the bank of work being saved for cyclic maintenance.

The development of cyclic schemes is usually by the DLO staff and management services officers working together. This type of internal consultancy role for management services is welcome and may well be more frequently encountered as DLOs, where necessary, seek means of becoming more efficient and competitive.

9.1.5 Access to tenanted properties

One of the most frequent irritants for those planning a repairs service is the number of abortive calls by tradesmen and supervisors calling to make inspections. The proportion of abortive calls can be as high as 35 percent in some areas for internal trades such as joiners and plumbers, representing a substantial amount of unproductive time on which bonus may be payable. Relieving the problem is largely an educational exercise affecting tenants, housing management staff and sometimes the DLO itself. A number of fairly self-evident measures can help:

- Tenants should be convinced of the need to give telephone numbers and agree suitable access times when they report defects

* Housing officers should ensure that this information is elicited and enter it on works orders

* DLO supervisors should use the telephone to arrange access and record details in an appointments book

Although not all DLOs have monitored abortive calls in the past, it is now important to do so, to ensure that the DLO makes an appropriate charge. From the tenant-management point of view it is also useful to monitor abortive calls because they represent a largely avoidable waste of resources. Monitoring can normally be fairly easily done through the bonus scheme information.

The normal procedure when no access is possible is for the operative to leave a card asking the tenant to return it suggesting convenient dates in the future or to telephone. Some authorities allow cards to be left on two occasions before cancelling the job if no reply is received. Normally the card is returnable direct to the DLO, but there may be merit in having it returned to the housing department, which can then pass it on to the DLO with any information it has on the access situation for the particular tenant; this would also indicate to the housing department the extent of the problem.

DLO supervisors should also ensure that the abortive call system is not abused by the operatives. It may be too easy to drop the card in without really waiting to see if a tenant is at home, and thereby earn bonus without doing productive work. This is a complaint sometimes made by housing officers.

It does have to be recognised that in some cases it is difficult for tenants, if all members of the household are working, to arrange to be at home for the appointment. One way of solving this, at any rate for plumbing and electrical repairs, is to arrange for the mobile tradesmen dealing with emergency calls from 4 pm to 10 pm to fill their time between emergencies by attending to jobs for which there was no access during the day.

9.2 PROGRAMMED WORK

By its nature this type of work, pre-painting repairs, external and internal decorations, planned upgrading schemes and regular maintenance of services appliances, is much more amenable to planning than responsive maintenance and often the planning takes place at a higher level. In planning the level of resources needed, a few general factors are relevant:

* Workload may be uncertain because of the requirement for the DLO to tender for work.

* Certain work may be circumscribed by the time during the year when it can be done, eg exterior painting during the summer months, repairs to schools during the holidays, servicing of central heating plant during the warm season

* There can be advantages in allocating programmed work to special gangs and foremen on a specialist basis

The uncertainty over workload could be minimised if the DLO could persuade its clients to put schemes out to tender before the start of the financial year, so that overheads and resources can be calculated on a reasonably secure workload base. However, this may not be possible in cases where the client department's estimates are not approved until after the start of the financial year.

Because of the need to do external painting work in the summer, it is better that pre-painting repairs are carried out in the previous financial year in order that they can be completed before the painting season starts.

Programmed work is almost invariably pre-inspected and pre-measured and therefore the resourcing implications can be known well in advance, subject to the general workload considerations. The work can therefore be quite closely planned and controlled as far as men and materials are concerned, and the workforce should be more productive than for responsive maintenance. One in-house DLO in the study estimated that its planned maintenance operatives were non-productive for only 9 percent of their time in 1980/81 compared with 24 percent for the general maintenance workforce. The implications of the Act are likely to cause authorities to look more closely at figures of this nature in attempting to achieve a closer balance.

As with any major contract work, it is important that progress of programmed maintenance is monitored so that corrective action can be taken before it is too late. This should be a simple record completed weekly by the foreman responsible for the work, indicating percentage progress against the weekly target, with reasons for any large variance.

9.3 REPAIR OF HOUSING VOIDS

Because empty council houses are expensive in lost rents and politically embarassing, many authorities give special priority to the repair of void properties and set up special monitoring procedures to ensure that they are dealt with expeditiously (see Section 6.5). If works orders for voids are handled at depot level by the same foremen who are dealing with general responsive maintenance, there is always a temptation to regard them as "hospital" jobs, because it is much easier to organise men on a succession of small jobs than to co-ordinate them for multi-trade work perhaps costing several thousand pounds. A number of authorities have therefore set up special voids teams with foremen and tradesmen, either operating from a central base, or from each area depot if the housing stock turnover justifies this. Sometimes the voids foreman is given a prior call on manpower, above that for general maintenance.

One of the keys to a swift turnaround of voids is good co-ordination between trades. This requires foremen with the appropriate skills and an administrative system which ensures timely circulation of each trade's instructions. A system of subsidiary or follow-on orders to the main works order may allow more than one trade to work at the same time on the house, something that might be made more difficult if the main works order had to be passed from one trade to the next.

One of the possible consequences of the new accounting framework and the requirement for estimates is that, because this introduces another stage, the whole process will be slowed down. However, steps can be taken to minimise this by using standard schedules of work on which measurements can be inserted by housing department repairs inspectors when deciding the work to be undertaken, and which can be rapidly priced by the DLO with minimum effort. Because the work is repetitive, attempts should be made to standardise and automate the administration as far as possible.

9.4 FLEXIBILITY IN DEPLOYMENT OF LABOUR

Most authorities have at least a nominal commitment to flexible deployment of the workforce between the depots according to need, but in many the extent of this is not great. There are a number of reasons for this which, if clearly understood and considered, might result in the objections to flexibility being overcome:

- Management information is not structured in such a way that disparities between manning and works order backlogs are highlighted

- Operatives are often not keen on being moved because it breaks up habitual patterns of working and gang relationships

- First line supervisors are often unenthusiastic because it means getting to know the working and behavioural characteristics of new men, and the natural reaction of supervisors with a surplus when asked to release men to a hard-pressed depot is to transfer the least effective workers

- If the incentive scheme depends on group bonus being earned, men are reluctant to have their gangs changed in case their earnings fall

- In some authorities the bonus scheme travelling allowances are affected by a move, and this can create resistance to being redeployed

Obviously a DLO should react in a considered manner to differences in backlog between depots and should not be overhasty in moving its workforce around. But on the other hand it does need to be as flexible as is reasonably possible and attempt to achieve an even productivity between depots. The following proposals may be considered in the light of each authority's own circumstances:

- Gradually adopt a deliberate policy of moving men from depot to depot to induce a greater sense of flexibility and to enable them to become more accustomed to the idea of a move.
- Unless it is seriously going to disrupt working knowledge of an area, move foremen from depot to depot at intervals (not more frequently than yearly). This will enable them to become familiar with other areas and other members of the workforce; it will assist in redeployment when colleagues are absent; they may pick up useful ideas from new colleagues; and they will not so easily get in a rut.
- Set up a central team for each trade which could be deployed to any depot where there is a severe backlog problem in that trade.
- In authorities where it is a strong tradition that a man 'belongs' to a particular depot, designate certain tradesmen at depots, perhaps on a volunteer basis, to be available for redeployment if the need arises. In this way each depot would have a core of permanent operatives and a team of mobile operatives whose designation as such would make moving of men easier. However this may not be necessary in authorities such as counties or rural districts where the men are only engaged on the basis that they will travel anywhere in the authority's area.

Ironically, movement of labour sometimes takes place more often when workloads are too low than in response to peaks. This can lead to the situation in which a number of men are moved to another depot but without a foreman. This upsets supervision ratios and causes great problems for the receiving depot; it is obviously a practice to be avoided.

10. EMERGENCY SERVICE

All authorities make some kind of arrangement for dealing with emergency repairs outside normal working hours, but the extent varies as does the way in which the service is organised. The service is usually directed mainly towards housing tenants, but some DLOs provide a service round the clock for non-housing buildings, particularly social services establishments and schools.

10.1 INITIATION AND RECEIPT OF CALLS

The various methods by which tenants can initiate emergency work are outlined below:

- Telephone the hall porter at the town hall and he notifies the duty foreman
- Telephone the central depot where an automatic answering machine gives the telephone number of the duty foreman whom the tenant then calls
- Telephone the depot night-security officer who passes the call to one of the duty operatives, either by telephone or radio
- Telephone the duty foreman at his home
- Telephone statutory undertakings direct

In some authorities tenants tend to abuse the emergency system, using it as a means of jumping the repairs queue if they can, and some allegedly emergency calls are for work that on investigation proves not to be urgent at all. It is important therefore to have some system of filtering calls by someone with technical knowledge of defects and the buildings concerned. The arrangement whereby the tenant can speak directly to the duty foreman is preferable to that in which the town hall night porter or depot night-watchman is an intermediary. The foreman can assess the urgency of the call, decide whether he needs to inspect it, and call out the appropriate operative, or if necessary refer it to one of the statutory undertakings. However, some authorities have reservations about giving foremen's telephone numbers to tenants in case they are plagued with calls. In such circumstances it would be better for the foreman to call the tenant back, if possible.

All emergency calls should be logged, partly to ensure that they are properly followed up and charged, and partly as a precautionary measure in case a dispute develops as to whether it has been dealt with properly or whether it really was an emergency. The information that needs to be recorded is:

* Date and time of call
* Name, address and telephone number of caller and whether a special category tenant (eg elderly, disabled)
* Nature of defect reported
* Action taken
* Works order number raised (if relevant)

To help avoid abuse of the system, tenants should be given written guidelines on what constitutes an emergency, and also the circumstances in which they may contact statutory undertakings directly. If this is permitted, there has also to be an effective method of checking the invoices received and for liaison with housing management to ensure they are justified.

10.2 EXECUTION OF THE WORK

In some cases the duty foreman attends to emergencies himself, in others he will send a tradesman directly, or they attend to the call together. If the tenant is a single woman or one parent family, it may be a sensible precaution for two DLO employees to deal with the matter. Usually only a limited range of trades are on call for emergency work, mainly plumbers and electricians, but sometimes also joiners to deal with boarding up. Depending on the pattern and volume of calls, an authority should establish whether it is cheaper to have its own tradesmen on call for defects relating to gas and electrical installations, and water supplies, or whether it would be cheaper to call out the undertakings after the duty foreman has assessed the work, either on the telephone or by inspection.

It is usual for the work to consist of patching up and making safe, with a proper repair being undertaken subsequently through the normal repair procedures. There does therefore have to be a satisfactory arrangement for informing the area depot of the need for follow-up work, and for raising a works order.

The majority of emergency work is for plumbing, heating and electrical defects. One authority (which provides an emergency service for weekends and bank holidays only - dire emergencies during the week are covered by the statutory undertakings) analysed its calls in the quarter to the end of March 1980/81 as follows:

Plumbing	26 percent
Heating	25 percent
Electrical	22 percent
Blocked drains	8 percent
Carpentry	6 percent
Others (gas, lifts, dangerous buildings, floods, roof, no action)	13 percent

In one authority between 4 pm and 10 pm the emergency tradesmen are on duty continuously and attend to routine repairs for which no access was possible during the day, fitted between the emergency calls.

10.3 MANNING AND STANDBY PAYMENTS

Duty foremen and operatives are on call on a voluntary basis, usually on a weekly rota. Operatives may be allowed to take a council van home for the period when they are on call. Examples of standby and other enhanced payments are as follows:

- Foremen: £11 per shift but no overtime
  Operatives: £15 per week of standby duty plus overtime worked

- Foremen: £42 per weekend standby plus overtime on calls or time off in lieu if above grade AP5
  Operatives: £42 per weekend plus overtime on calls (two hours guaranteed)

- Foremen: Overtime rate on calls plus travel expenses to site or depot

It is also quite common for the council to pay part of the telephone bills for foremen and operatives on standby.

10.4 COSTS AND CHARGES

Practice on charging for emergency work varies considerably. Some authorities charge the work to a specific emergency code, whilst others charge it to the appropriate maintenance category. Some DLOs make emergency call-out charges in addition to the cost of the work (by its nature emergency work cannot be pre-estimated); examples of call-out charges in 1981/82 were:

- £14 minimum with work done at £6.25 per hour

- £10 plus dayworks rates for labour, and materials and transport at cost

- Normal rates per productive standard hour

Except in authorities where emergency work is specifically coded as such, it has not hitherto been possible to identify either the cost to the DLO of emergency work (except the standby and overtime payments, and contribution to the men's telephone bills), or the charge to the client department. It is believed that in many cases the charges do not bear a close relation to the true cost to the DLO in terms of enhanced payments and increased overheads (eg radio paging). However, if the service is to be carried out on a commercial basis, its true costs should be assessed and charged at appropriate rates, separately from those for responsive and programmed maintenance. One authority in the study has found that if the system is being abused by tenants, this may be reduced by levying a call-out charge on the tenant.

11. POST - INSPECTION

11.1 PURPOSE AND NEED FOR INSPECTION

The main purposes of post-inspection are:

* For the client to check that the work is satisfactory

* For the DLO to check its own work quality

* For the DLO to check or assess bonus claims. It is noted that the more complex the bonus scheme is, the greater the need for post-inspection.

* For the DLO to check any variations to the work ordered and to assess extra charges (it would normally be impractical to refer back to the client for prior authority for variations to a responsive maintenance job)

The inspections may be carried out by:

* DLO foremen, during or on completion of the job

* Bonus surveyors

* Maintenance inspectors on behalf of the client

Prior to the Act it was mainly the DLO that was responsible for post-inspection of work, but in authorities which have made a clear distinction between client and contractor roles, inspections on behalf of the client now take place. However if the DLO continues to make inspection on behalf of the client, arrangements should be made to apportion the costs appropriately.

This means that some jobs may be inspected twice, which, whilst acceptable in client/contractor terms, may not be the best use of technical resources (see Section 11.2).

11.2 EXTENT OF POST-INSPECTION

Post-inspection is a function for which internal auditors or DLO management often set targets but which DLO supervisors frequently fail to meet or for which there is often insufficient evidence to assess whether they do or not. Many authorities quote the figure of 10 percent as the target, and in the study the actual extent of post-inspection was stated as being between 2 percent and 50 percent (this latter was for a general property DLO which does not maintain housing).

For housing work, some authorities insist that the tenant signs the job ticket on completion and in most cases this will be an indicator that the work has been completed satisfactorily. However this will not assist with the question as to whether any extra work has been carried out.

11.2.1 Records

Most authorities do not keep records of the jobs that have been post inspected. In one DLO the area superintendents indicate the works orders to be inspected by the foremen and chargehands, but the form is not marked up when inspection has taken place. In another DLO foremen put their initials against the job on a man's time sheet when they have visited it, but there is no distinction between visits to jobs in progress or completed, and so the actual amount of post-inspection is not ascertainable (However because the degree of post-inspection by foremen generally is known to be low, one assistant foreman is engaged full-time on post-inspection throughout the authority, inspecting eight or nine jobs per day and making a return on them direct to the building superintendent.). In another authority each area superintendent makes a weekly return to DLO headquarters listing the jobs inspected, the operative concerned, and whether the work was satisfactory.

Whilst the paperwork burden on first line supervision ought not to be increased unnecessarily, there is nonetheless a strong case for proper records to be kept of jobs inspected. Probably the simplest way would be for the works order form to carry a space for an inspection signature and comment, separate from that for the foreman's initial certifying completion. When works orders are returned to the client department or technical control unit, the client's inspectors could then ensure that they inspected, in most cases, different jobs, to avoid duplication, unless there was reason to suspect that DLO supervisors were not being reasonably impartial. For a computerised system the fact of an inspection could be keyed in with the time spent by the operative, so that analyses of post-inspection rates for different depots and trades could easily be made.

11.2.2 Different types of work

There are variations in the extent of inspection, depending on the type of work. Some authorities have a policy of inspecting only the larger responsive maintenance jobs, ie those requiring more than four hours work. Painting is usually extensively inspected, and repair jobs to housing voids are often all inspected. Major repair jobs should be inspected on behalf of the client during the work and on completion.

Where bonus earnings are particularly high, it may be indicative of a need for more post-inspection. It may also be worth noting that the nature of the bonus scheme may cause a DLO to do more post-inspection than might otherwise be necessary. The cost of this should be weighed against the supposed gains in productivity through having a tighter scheme that requires a high degree of post-inspection.

11.2.3 Unsatisfactory work

When inspection shows that work is unsatisfactory and the operative has to return to the job, it is normal for none of the work to be eligible for bonus, neither the original job nor the remedial work. This can easily be transmitted through the pay system via the time sheets, but is is also important that the costing system, especially if it is based on productive standard hours, can ensure that the client is not charged for remedial work. It may be necessary to have a supplementary works order (or variation) issued by the DLO to itself, to cover the time spent.

11.3 CONTRACTORS

Where contractors are used, steps should be taken to ensure a balance of post-inspection between them and the DLO. Some authorities automatically inspect contractors' work either more or less than the DLO, but any difference should be based on the realities of their respective performances. Any circumstance in which contractors' work is inspected less than the DLO needs to be examined.

Unless the DLO is sub-letting work, contractors' work and invoices should normally be verified by staff outside the DLO, ie by client department inspectors or the technical control unit of a works department. In cases where DLO staff are still used to inspect direct contractors' work, the costs of inspection should be apportioned to the client.

12 TRANSPORT AND PLANT

12.1 TRANSPORT

12.1.1 General use of transport

This report is concerned with the way in which a building maintenance DLO uses and manages its transport, rather than with the more general aspects of fleet management such as the legal framework, operator's licence, technical and legal provisions for vehicle maintenance, and financing. These matters are covered in the CIPFA Financial Information Service Volume 5 (Bibliography reference 6).

The study showed that although DLOs used vehicles largely for similar purposes, there are marked differences in the amount of council-owned vehicles available, and the use of drivers. Table 12.1 illustrates these differences. Broadly the uses of transport are:

- Delivery of materials and plant to jobs (lorries, vans)
- Transport of operatives (lorries, vans)
- Use by chargehands, foremen and other supervisors (light vans)
- Use as working bases by mobile operators (light vans)

The composition of vehicle fleets in the sample DLOs is shown in Table 12.2. In most cases light vans (under 10 cwt) comprise at least half the fleet. The proportion of lorries varies from 5 percent to 36 percent. Fewer lorries are usually compensated by more heavy vans, but one DLO has roughly equal proportions of lorries, heavy vans and light vans.

Table 12.1 shows that in the rural situation the ratio of vehicles to full-time drivers is higher than in towns, implying, as would be expected, that vehicles are driven by the men who work from them. The ratio of operatives to vehicles is low in rural locations, as would also be expected, because more men have to travel to their jobs by council transport than by bus or on foot. One rural authority forbids its operatives to use their own cars and is aiming for one van per man, excluding painters. However, in towns there is a division between those DLOs which have about ten productive operatives per vehicle and the two London boroughs which have five or fewer productive operatives per vehicle. Paradoxically, the borough with the lower ratio of productive operatives per vehicle allows the men to use their own cars, whilst the other discourages the practice; however the former borough does cover a much wider area.

The table highlights indicators which show a liberal use of transport, and any authority making similar calculations ought to ensure that a high usage of vehicles is justified by its geographical circumstances and methods of operation. Factors causing a high use of transport might be:-

- Wide area of operation
- Large degree of pre- or post-inspection required for bonus scheme, or arising from unclear instructions
- Large number of mobile operatives using a van as a working base
- Discouragement of operatives using their own cars
- Inefficient organisation of materials deliveries

A factor contributing to a low usage of transport would be a highly localised system of depots. If it was decided to reduce the number of depots to reduce overheads, it should be recognised that there will be increases in transport costs which may reduce the benefits of rationalisation.

Table 12.1 Availability of transport

Type of authority and area covered	Type of DLO	Total number of operatives	Number of vehicles	Number of drivers	Ratio of vehicles to drivers	Ratio of productive operatives to vehicles
LB (35 sq m)	General property	128	40	6	6.7	2.7
LB (35 sq m)	In-house	192	47	13	3.6	3.4
MB (55 sq m)	In-house	356	32	10	3.2	10.4
DC (236 sq m) (rural)	General property	82	40	0	-	2.0
DC (46 sq m) (urban)	Works department	634	68	16	4.3	8.9
MB (43 sq m)	General property	99	10	2	5.0	9.7
MB (43 sq m)	In-house	805	69	31	2.2	11.1
DC (36 sq m) (urban)	Works department	655	64	24	2.7	9.8
LB (8 sq m)	General property	346	68	7	9.7	5.0
CC (316 sq m) (rural)	General property	351	86	12	7.2	3.4

Table 12.2 : Composition of vehicle fleets

Type of authority	Type of DLO	Number of Operatives	Vans up to 10 cwt	Vans 10 cwt to 20 cwt	Lorries	Other	Total
LB	General property	128	25(63%)	13(32%)	2(5%)	-	40(100%)
LB	In-house	192	29(56%)	10(19%)	13(25%)	-	52(100%)
MB	In-house	356	12(38%)	11(34%)	9(28%)	-	32(100%)
DC	General property	82	7(18%)	25(62%)	3(8%)	5(12%)	40(100%
DC	Works department	634	57(84%)	-	11(16%)	-	68(100%)
MB	General property	99	-	8(80%)	2(20%)	-	10(100%)
MB	In-house	805	37(54%)	4(6%)	22(31%)	6(9%)	69(100%)
DC	Works department	655	32(50%)	7(11%)	23(36%)	2(3%)	64(100%)
LB	General property	346	42(62%)	22(32%)	4(6%)	-	68(100%)
CC	General property	351	46(53%)	23(27%)	10(12%)	7(8%)	86(100%)

12.1.2 Control of transport

It is often said that if DLOs are to be regarded as trading concerns, they should be free to purchase or hire the transport they regard as necessary and to have it serviced in the most economical way which may not necessarily be in the council's transport workshops. DLOs are often captive customers in this respect, but so sometimes are contractors' site managers, being obliged by company policy to utilise transport from the company depot. The extent to which DLOs in the sample are captive is shown in Table 12.3. In some cases although the DLO or a section in its parent department is broadly responsible for providing vehicles or hiring extra vehicles, the authority's transport is actually purchased through another department; this is the reason for the distinction between columns (b) and (c) in Table 12.3.

Table 12.3 : Responsibility for control of transport

Type of authority	Type of DLO	Department responsible for : (a) Provision of drivers	(b) Purchase of vehicles	(c) Provision of vehicles	(d) Day-to-day control	(e) Servicing of vehicles
LB	General property	DLO	DLO parent	As (b)	DLO	As (b)
LB	In-house	DLO	Other	As (b)	DLO	As (b)
MB	In-house	DLO	Other	As (b)	DLO	As (b)
DC	General property	DLO	DLO parent	As (b)	DLO	As (b)
DC	Works department	DLO	DLO and county	DLO	DLO	Other
MB	General property	DLO	Other	As (b)	DLO	As (b)
MB	In-house	DLO	Other	DLO	DLO	Other
DC	Works department	DLO	Other	DLO	DLO	As (b)
LB	General property	DLO and DLO parent	DLO parent	As (b)	DLO	As (b)
CC	General property	DLO	Other	DLO	DLO	As (b)

Notes 1. 'DLO parent' indicates that the relevant function is provided by another section in the same department as the DLO.

2. 'Other' indicates that the function is provided from a different department from that of the DLO. Where other functions are provided by that same department, this is shown by "as......"

Table 12.3 shows that although all DLOs are responsible for day-to-day control of the vehicles they use, only four have direct control over the provision of transport and none is solely responsible for the purchase of vehicles. (In the case shown as "DLO and county" an arrangement exists whereby vehicles are purchased through the annual contract administered by the county under its agency agreement with the district councils). In all cases vehicle servicing is undertaken outside the DLO either by another section in its department, or by another department. Thus in most cases the only control a DLO has over the cost of its transport is the efficiency with which it uses it. Intensively used vehicles will reduce the total number required and hence reduce the transport element of overhead costs. In this context the flexibility with which the different types of vehicle making up the fleet can be used is relevant.

It is not unreasonable that the DLO should have to fit in with an authority's overall policies on transport. (If the council has a transport manager, he will have a legal responsibility for maintaining a safe fleet, including hired vehicles, which cannot be delegated). The DLO may therefore have to accept that its own best interests do not coincide with maximising benefits to the council as a whole, because the authority may have an integrated transport fleet. However, the following points may be regarded as a yardstick against which the freedom of a DLO to operate commercially can be measured:

* Is the DLO able to decide what transport it needs and when it should be replaced?

* Is the DLO free to hire transport direct from private firms to deal with workload peaks or special types of work, without reference to another department or section?

* Is the DLO allowed to test whether the council's arrangements for servicing and repairs represent good value for money by being given the option of having some of the work done elsewhere?

* Can the DLO challenge the hire rates charged by other sections and departments to itself?

12.1.3 Charges to the DLO

Where transport is provided to the DLO by another department, it is charged at daily or weekly rates which usually the DLO has no choice but to pay. The charges will depend on the overheads of the department concerned and may not necessarily be competitive with local private firms. Sometimes those controlling the use of transport on a day-to-day basis are not even aware of the amount of the charges and have therefore little idea of the significance of transport costs in relation to the other costs they are responsible for controlling.

If the transport is provided within the same department, the DLO is charged a daily or weekly rate based on the aggregate of costs over the year (depreciation, licence fees, insurances, fuel, maintenance and repairs, and overheads). However, even in this case it is rare for line managers to be aware of the true cost of their transport.

The vehicle fleet probably represents a substantial proportion of DLO assets and depreciation may well account for a considerable sum at the margin between DLO income and expenditure. It is therefore reasonable that the DLO itself should have some influence over the cost of maintaining this asset and the timing of its replacement.

12.1.4 DLO costing arrangements

Transport can either be charged to jobs or to the general labour overheads. As was shown in section 12.1.1, a good proportion of building maintenance vehicles are used by supervisors and it is not practicable to charge the cost to individual jobs. In the case of vans used by operatives or to deliver materials, charges can be made to jobs through the driver's or operative's time sheets, and some authorities adopt this policy, especially where larger jobs are concerned. However, in general it is probably administratively easier to recover the costs of transport through the labour overheads and if the cost of DLO staff can be held down by this method then the differences between the true and assessed costs of jobs can be tolerated.

12.1.5 Transport usage information

Although it is not generally possible to control transport costs on an individual job basis for maintenance, it is important for management to be assured that vehicles are being used effectively. Although a daily log has to be kept for each vehicle and fuel usage is readily available through the fuel requisitioning system, few authorities provide regular transport usage information to DLO managers or those responsible for administering the transport. It is suggested that for each vehicle the following details as appropriate should be recorded on a monthly basis, for the month in question and cumulatively against the annual budget:

* Hire costs (including hire of replacement if necessary)
* Driver's wages
* Depreciation
* Licence and insurance
* Servicing, repairs and tyre replacement
* Fuel costs and consumption
* Total costs
* Hours worked
* Income (in terms of charges to jobs) if any
* Mileage

The DLO transport officer could then monitor these figures and report them on an exception basis to the vehicle users or supervisors responsible for their use. The DLO manager should receive the figures on an aggregate basis for the fleet. The questions that management needs to be able to answer are:

* Do we have the right vehicles?
* Are they being used in the most effective way?

12.1.6 Storage of transport

For depots on congested sites this is always a problem, but most DLOs make efforts to ensure that vehicles are parked securely within the depot perimeter at night. Operatives on standby duty generally take a council van home for a period of their duty. The county council in the study sample has a policy of allocating vehicles to individuals, who are allowed to take them home, and they are required to carry out basic maintenance, ie clean the vehicles and check oil levels and tyre pressures. This policy is necessary for a DLO operating over a wide rural area; the operative/drivers can also pick up other operatives en route and deposit them at appropriate sites, thus helping to minimise travelling times. This is perhaps an arrangement that could be used more widely in rural areas or wide urban areas, providing a reasonable relationship of trust exists between operatives and supervisors.

12.2 PLANT

12.2.1 Type of plant held

Most building maintenance DLOs hold only items of minor plant, such as:

- Ladders, trestles and mobile scaffold towers
- Small tools, electric drills and hammers
- Pumps, generators, compressors
- Woodworking machinery (planers, saws, spindles)
- Metal-working machinery (lathes, welders, grinders, drills, sanders, routers, snorters)
- Paint sprayers, priming machine

Some DLOs also hold small numbers of larger items whilst others hire these in as necessary, for example:

- Scaffolding and cradles
- Concrete mixers
- Fork-lift trucks
- Skips
- Mechanical shovels

Sometimes a DLO has a small plant workshop for the maintenance of its plant, for example repair of ladders and trestles, and in some cases plant is also maintained for other departments. Often a DLO's plant is maintained by the same section that maintains its vehicles.

12.2.2 Charging and costs

The cost of small plant is normally recovered through the labour overheads or the rate for the job. Large items of plant such as scaffolding or concrete mixers may be charged to jobs on a time basis. Hired-in plant is generally requisitioned through the purchasing section and the cost charged against the job for which it is required.

Plant budgets are usually fairly modest, as Table 12.4 indicates, but the turnover of some items of plant, such as ladders, can be considerable because of the problem of securing it. The table shows a perhaps surprising consistency in the level of expenditure on plant at £100 to £180 per man in most of the directly comparable examples.

Table 12.4 Budgets for plant and tools 1981/82

Type of authority and area covered	Type of DLO	Total number of operatives	Plant budget (£)	Comparative index: Plant cost per man (£)
LB	General property	128	14000	109
LB	In-house	192	5000 (1)	26
DC	General property	82	14560	178
DC	Works department	634	140000 (2)	221
DC	Works department	655	82930	127
LB	General property	346	21350	62
CC	General property	351	42050	120

Notes (1) This figure is probably low because any excess expenditure on plant is met from repair and maintenance funds.
(2) This figure includes depreciation charges.

12.2.3 Documentation and management information

Plant is usually depot-based, either centrally or at area depots, and each depot supervisor has a register of plant. Booking out arrangements are usually quite informal, the depot clerk recording in an exercise book the name of the operative or foreman to whom plant is issued, although some authorities have a more formal system with a triplicate book. The main point is that there should always be a note of the person responsible for it, once an item has been taken out of the depot. Usually painters have a slightly different arrangement, whereby a record is kept of the location of their trestles and towers as they are moved from site to site.

Because plant for maintenance is a relatively minor item of expenditure and intensiveness of use is not normally necessary or practicable as a criterion of good management, the need for management information is limited. It is suggested that it would be sufficient if DLO management were provided with monthly returns of expenditure against budget, cumulatively and for the month in question, for:

* purchases of plant by main category
* repair of plant
* hire of plant

Depreciation should be shown as a separate item in the annual budget as it is not directly controllable by DLO managers.

The question whether to purchase or continue to hire can become an issue for the larger items of plant. One authority suggests as a guideline that an item be purchased if usage when hired approaches 40 weeks a year.

13. STORES AND PURCHASING

13.1 STORES

13.1.1 Responsibility for stores function

Table 4.2 in Section 4 indicates in general terms the location of responsibility of stores for the DLOs in the study sample. The main alternatives are:

- Stores fully within the control of the DLO
- Stores managed within an administrative division outside the DLO but within its parent department

As stated in Section 4.2.2, since implementation of the Act, and when stores are treated as DLO assets, it is preferable for the DLO manager to have control of the stores function as far as stock levels, type of commodity, procedures and authority to purchase are concerned. However it may be convenient and more economical in staff for some of the administration to be carried out by the DLO's parent department.

13.1.2 Organisation of stores

This report does not cover matters such as the physical arrangements within stores compounds and the planning of stores and staff levels, which are discussed in CIPFA Financial Information Service Volume 5 (Bibliography reference 6).

The organisational arrangements for stores found in the study are indicated in Table 13.1. There are three main models:

- One central store only; this appears to be used by general property DLOs which are not concerned with the maintenance of housing
- No central stores but each area depot with its own stores: this arrangement is used by in-house DLOs, but also by one works department DLO in the sample
- Central stores which serves a number of area stores: this seems to be the most usual model and is found with all three types of DLO.

Large DLOs tend to have separate stores for some specialist trades such as painting, electrical and heating work. They are managed on a fairly independent basis but generally within the control of one administrative officer or chief storekeeper.

Where there are central stores and area stores, the stock usually passes through or is ordered through the central stores; in other words the area stores are satellite stores. They are sometimes operated on an imprest basis with weekly deliveries to restock, based on usage during the previous week. One advantage of a central stores serving satellite stores is that the holding of stock can be easily co-ordinated. It is not necessary for each satellite to hold the full range of stock and thus the capital tied up in stock can be minimised.

The operation of area stores without a central store does give a certain amount of freedom to each area storekeeper, but unless stockholding is carefully co-ordinated at DLO headquarters, the number of large and costly items held (eg copper cylinders), when totalled across all area stores, might be more than needed by the DLO, thus wasting space and capital. In other words, the result of each area storekeeper exercising his judgement to hold a safe level of stock may mean that the total stock is well over the annual use by the authority as a whole.

In deciding which of the three models is best suited to its own needs a DLO should consider the following factors in relation to one another:

* The need to co-ordinate stockholding to minimise the working capital required

* Minimising the amount of travelling and waiting by operatives in the collection of materials

* The need to hold sufficient stocks to avoid unnecessary delays in completing repairs

* Making the most economical use of storekeepers and clerical staff, consistent with providing a satisfactory service to the DLO.

The use of imprest stores systems by satellite stores has the advantage that re-ordering is automatic; there is no need for staff to keep a watch on stock levels because items are replenished automatically from the centre. The use of imprest stores on the vehicles of supervisors and certain tradesmen such as plumbers, heating fitters and electricians is also to be encouraged because it facilitates a more flexible response to repairs, especially in the type of work where fault-finding is involved. In rural areas DLOs may extend this principle to all trades, eg the joiners' van carries standard timber sizes and the bricklayers van carries sand and cement.

Table 13.1 : Organisation of stores

Type of authority	Type of DLO	Central stores	Sub-stores	Other
LB	General property	Yes	None	Use of Housing Department Stores Separate M and E Stores
LB	In-house	None	At area depots (4)	
MB	In-house	Yes	Imprest at depots (4)	Imprest at some sub-depots and on some vehicles
DC	General property	Yes	At area depots (2)	
DC	Works department	None	At area depots (4)	
MB	General property	Yes	None	
MB	In-house	None	At area depots (8)	
DC	Works department	Yes	Imprest at area depots (19)	Separate stores for: Conversions Painting Electrical Heating
LB	General property	Yes	Imprest at area depots (4)	Imprest on some vehicles
CC	General property	Yes	At area depots (4)	Imprest on some vehicles

13.1.3 Comparisons within the sample of DLOs

Table 13.2 gives comparative data on stores operations for DLOs in the sample. The left hand half of the table gives certain basic details and the right hand half shows indices and statistics derived from them and related to the number of productive operatives in the DLO. In the four cases where full data were available, the value of stores issues ranged from 16 to 33 percent of DLO turnover.

Stock turn is a measure of the rapidity with which the stores turns over its stock. The higher the figure the better, provided sufficient stock is held to avoid delaying the completion of repairs, and this is dependent on the characteristics of the properties maintained. Working capital can be minimised and hence the rate of return that has to be earned on it. Stores, if included in the DLO's assets, usually represent a sizeable proportion and therefore influence the rate of return calculation significantly. However the use of stock turn as an indicator needs to be considered against the background of travelling and waiting time, financial controls and the extent of use of direct purchase, and the availability of bulk discounts.

Stock turn varies within the sample between 1.8 and 4.2, a wide range. One authority had set itself a target of 4.0 for its stock turn and achieved it with one of its DLOs but not the other; however, within the latter, some depots achieved it but not all. It is worth making the calculation for each area depot (when not stocked on an imprest basis) so that stores with slow moving stock can be identified and the reasons sought.

The number of issues per member of storekeeping workforce (officers, clerks and weekly paid storekeepers) is a self-evident but rough and ready statistic. It does give some measure of the productivity of stores staff, but it may not necessarily be within their power to alter this, depending on the procedures with which they have to work. It varies considerably, the largest figure in the sample being 4.7 times the least.

The value of issues per member of stores staff is again an approximate measurement of use of stores manpower, but it does not necessarily correlate with issues per stores staff member because the value of each issue varies (between £9 and £50 in the sample) and it is highly dependent on the the type of maintenance work and the extent of computerisation of the stores system. However, the range in the statistic "value of issues per stores staff member" is not so great; the largest is only 2.1 times the least. There does not appear to be any immediately apparent relationship between these indices and the type of stores organisation.

For housing maintenance, for which a large number of small issues are involved, often collected by the operatives from the stores, the number of productive operatives per stores staff member should give an indication of the quality of service received by DLO operatives at peak times. The figures range widely, but most are in the range 20 to 50; the largest figure is for a county DLO where there is little direct contact between operatives and the stores and so the figure is not a relevant yardstick.

Table 13.2 Comparative stores data

Type of Authority	Type of DLO	Number of stores personnel	Number of commodities	Value of stock (1980/81) (£)	Value of issues (1980/81) (£)	Number of issues per year	Stock turn	Value per issue (£)	Number of issues per stores staff	Value of issues per stores staff (£)	Number of productive operatives per stores staff	Number of issues per productive operative
LB	General property	7	4000	250975	518550	30000	2.07	17	4300	74000	16	275
LB	In-house	8	4000	274720	486180	60300	1.77	8	7500	60800	20	382
MB	In-house	9	10000	220000	600000	120000	2.7	50	1300	67000	37	36
DC	General property	4	1250	115000	380000		3.3			95000	23	
DC	Works dept.	25	10000	450000	1342000	51000	2.9	26	2000	53000	24	84
MB	General property	1	420	12000	50000	6000	4.2	9	5500	50000	97	57
MB	In-house	17	1176	499000	1240000	104000	2.5	12	6100	73000	45	136
DC	Works dept.	11	1700	321000	1051000	52000	3.3	20	4700	96000	57	83
LB	General property	17		400000	1104000	78000	2.8	14	4600	65000	20	231
CC	General property	2	2200	102000	214000		2.1			107000	162	

The number of issues per productive operative may give a clue as to the amount of time operatives spend collecting stores but it naturally depends on the way materials are distributed to jobs. Again the figure varies widely.

The sample is too small to enable any statistical correlation analysis to be made and there are no obvious relationships between these indices or between them and the methods of stores organisation. The factors which cause the differences are probably many and highly interactive, for example volume of work of different types, relative proportions of major and minor repairs, procedural and control arrangements. However the figures do give some kind of yardstick and indicate directions in which stores management should be aiming, for example:

* High stock turn
* High value per issue (subject to economic use of materials)
* Large number of issues per stores staff member

The apparently huge differences in numbers of commodities stocked, from 400 to 10000 are probably due to differences in definition. For example, material stocked in different sizes may count as one commodity in total or one for each size. Or the same item stocked at a central stores and five area stores might count as six commodities if it has a different coding for each store, or it might be counted as one. Before any inter-authority comparisons were made, it would be necessary to agree a common definition.

13.1.4 Delivery of materials to jobs

The various methods by which materials reach the site for their use are :

* The operative collects materials from central or area store before travelling to the job

* The materials are delivered by stores direct to the job; this usually applies to bulky items

* Materials are taken by foremen to operatives on their jobs

* Operatives carry imprest stock on their vehicles, replenished daily or less frequently from central or area stores

* Materials are delivered by suppliers direct to jobs; this can apply to larger schemes such as painting jobs or programmed improvements

* Area depots send vehicles to collect materials from central stores

The method of delivery needs to vary with the type of material and nature of the work, but in deciding the most suitable arrangements the following points should be considered, together with those mentioned in Section 9.1.4 :

- Multiple handling of materials should be minimised as it wastes time and usually requires movement of paper

- The time spent by operatives or foremen collecting materials should be minimised because it represents non-productive time or time that could be better spent in supervision of work.

13.1.5 Stores documentation

The CIPFA Financial Information Services Volume 5 (Bibliography reference 6) sets out the minimum documentation normally required, namely:

- Stores catalogue
- Stores requisition notes
- Direct order forms
- Stores received notes
- Stores issue notes
- Stores returned and transferred notes

These documents are carefully explained in the reference above and are not therefore repeated in this report. The authorities in the sample all use the last five, albeit in slightly varying ways, but not all stores have a catalogue readily available to the foremen requisitioning materials (if foremen are authorised to make direct purchases or to requisition direct purchases, it is helpful if the stores section arranges for them to be issued with the catalogues of local suppliers so that time and effort can be saved when writing or telephoning orders).

Because of the need for proper control of materials to avoid misappropriation, stores systems tend to be prolific producers of paper. Many were introduced several years ago and have not kept pace with developments in computer technology; such systems may well be now ready for review, bearing in mind the possibilites opened up by the availability of on-line terminals. Any changes to stores systems should aim for the following:

- Reduction in the numbers of forms and copies of forms necessary

- Reduction in the movement of paper

- Minimisation of the amount of writing to be done by foremen and operatives

- Simple input and output sheets designed with lay (ie non-computer) users in mind

- No significant loss of flexibility

One authority has introduced computer-printed works orders, two copies of which serve as stores requisition notes. However, if the space on the card is too small for a number of items on a larger job (more than eight), or if for some reason it is found that extra materials are required after the job card has been issued to the operative, a conventional foreman's requisition has to be raised. This illustrates the loss of flexibility that can arise when gains are made in other directions.

13.1.6 Charging for materials

Detailed advice on stores accounting is given in the DLO Accounting Code of Practice (Bibliography reference 5). Most authorities have a computer system for stores control and the cost of materials is calculated on an average basis from invoices for purchase. The program is usually designed to alter the average price only if it increases by more than a particular threshold value, for example 10 percent. For the average pricing system to work properly it is necessary to allocate separate commodity codes to items of materials which come in a range of sizes, eg copper piping.

Materials are costed to jobs through the requisition and works order number but when stores are within the DLO, practice varies as to whether a stores oncost is added or whether the cost of the stores service is included in the general labour overhead. Since the cost of the stores amounts usually to about 10 percent or less of the general labour overhead, it would be more economical, because simpler in accounting terms, to recover the costs by the latter method.

13.1.7 Stock control and stores management information

The decision on the items to be held in stock should be made by the stores manager and DLO manager together. The former will wish to ensure that he holds adequate stocks to provide a proper service, whilst the latter will also be concerned to minimise working capital and interest charges. It may be appropriate to rationalise the number of lines stocked, so that the larger and less frequently used items are not held at all, but purchased when required. It is also desirable to standardise as much as possible on materials used, and there needs to be liaison between DLO stores and those specifying building and improvement programmes. Decisions on stock levels should similarly be taken by the DLO and stores managers together, with the same aims in mind. Sometimes the decision on re-order levels is taken by the storekeeper based on his experience, but with the emphasis now on financing charges, it may be questioned whether this is still appropriate.

In many authorities stock control is effected at two levels. The storekeepers maintain manual records with bin cards or stock ledgers as each issue is made, and the finance department operates a computerised stock ledger. In theory the computer system should make the manual system redundant but if there are delays in producing the computer outputs (three weeks was quoted by one authority in the sample and some authorities only produce monthly printouts), the storekeepers tend to use the computer printouts merely as a check. In some authorities a mini-computer is used in conjunction with bin cards that have a magnetised strip. This is a reasonable compromise between manual and fully computerised systems.

It is only with the use of computers that stock usage reports are practicable, otherwise the clerical effort required is too great. It is probably most appropriate to have information produced at two levels to avoid having frequent and voluminous amounts of computer output. A weekly summary for each commodity could include :

* Commodity description and code
* Commodity price charged to jobs
* Unit in which it is counted
* Quantity of stock in hand
* Total value of stock in hand

This shows the key information that management should have available. More detailed information could be made available on microfiche to include:

* Quantity and value received into stock for the period
* Quantity and value issued for the period
* Date of last movement
* Minimum and maximum levels
* Details of individual transactions
* Stock on order

Trends that stores managers should monitor are:

* Marked fluctuation in the use of particular items (reasons to be ascertained)

* Very slow-moving or "dead" items (to be removed to improve stock turn)

* Marked fluctuations in the value of stock held

It is also helpful to stores management if foremen and supervisors can give advance notification of any sudden surges in demand for particular items, eg for use in a programme of repairs.

Practice on stock checking varies between an annual check and continuous stocktaking. The Accounting Code of Practice for DLOs (Bibliography reference 5) recommends the latter because it ensures closer control during the year and minimises surpluses and deficiencies at year-end. Continous stocktaking also permits an even use of clerical resources on this task throughout the year. High value items should be checked about three times a year.

13.1.8 Unused and salvaged materials

The stores control system should be flexibile enough to deal with the return of unused materials and the transfer of unused materials to another job; in some systems this is difficult if the cost code is the same for both the jobs, (eg they are both in the same maintenance category and individual jobs are not costed), because the computer cannot accept a stores transfer within the same cost code.

In one authority in the sample, efforts are made to re-use materials where possible. Items such as window frames, baths, sink units and glass from doors are salvaged from properties being modernised and are re-used in repairs. These items are not processed through the stores; they are saved at area depots until a use is found.

Another possible area of saving is to collect material which is surplus to capital works schemes, unused perhaps owing to changes in design, or fewer breakages and less site waste than allowed for. Such items, which are new, should be compiled into an inventory and placed under the control of the stores manager. Since they will have been paid for under the capital scheme, the question of charging their use against jobs becomes a matter of judgement. The most appropriate treatment might be to regard them as a free resource for the DLO. If a schedule of rates is in operation, the client would be paying the rate for the job anyway; if charging is on a productive standard hour basis, the DLO should charge for such materials at the current prices. Audit spot checks could ensure that the capital DLO was not deliberately over-ordering in order to provide a free source of materials to the maintenance DLO; in any case commercial considerations would militate against this.

13.1.9 Stores personnel

Storekeeping for building materials is a skilled occupation that requires some technical knowledge of building components as well as clerical and record keeping ability. Some DLOs engage as storekeepers ex-tradesmen or labourers, who are perhaps disabled or have suffered long-term sickness. This is obviously a sound policy in social terms but an authority adopting it should ensure that such men are given sufficient training to carry out the job effectively, and that satisfactory job performance is not jeopardised by persistent absenteeism as a result of earlier serious illness.

Another practical consideration regarding the management of stores staff is timekeeping. DLO supervisors should naturally attempt to ensure that all men attend at the correct hours, but with stores staff it is particularly important because much of the activity takes place in peaks early in the morning or immediately after the lunch break.

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13.1.10 Use of stores by contractors

One authority in the study sample allows its DLO stores to be used by contractors employed on its repairs. This has the advantages that the authority can control the quality of materials used and can ensure that sufficient stocks are held to prevent undue delays. However, this practice does raise the question as to whom the stores is supposed to benefit. Even if the full stores oncost (including financing charges) is charged to the contractors, there is no guarantee that their labour rates will be lower because they do not have to provide full stores functions (or spend time making purchases from builders' merchants). The authority could argue that it is not having to pay contractors' profit on the materials, but the financial advantages of such an arrangement would have to be weighed carefully against the costs (extra staff or pressure on staff to the detriment of the DLO - an unseen cost) before embarking on it.

13.2 PURCHASING

13.2.1 Responsibility for purchasing

Table 4.2 in Section 4 indicates the location of the purchasing function in the study sample. In most cases the responsibility lies in the same section as that for stores, either in the DLO itself or in the administrative division of the DLO's parent department. However in one case, the district council general property DLO, purchasing is carried out by the central services department which is responsible for all purchasing by the authority.

The section responsible for purchasing is sometimes also responsible for formal placing of orders on contractors or subcontractors to the DLO, often in a similar way to ordering materials.

The four main ways by which a DLO obtains materials are:

- Orders on suppliers selected by an annual tender. The materials are either delivered to stores or direct to a site
- Orders on suppliers selected on the basis of quotations for each occasion; materials are delivered to stock or site
- Direct purchase by the DLO or stores of small items from local suppliers
- Orders on suppliers selected by a consortium of authorities

The method used should aim to give maximum flexibility to the DLO consistent with proper control and maximising the benefits of bulk purchase.

13.2.2 Annual contracts

This method of procurement is used for items required in quantity and likely to be held in stock. Some authorities stagger the workload by inviting tenders for different groups of commodities at different times of the year, but many arrange the annual contracts to coincide with the financial year by inviting tenders around January. The invitation to tender is advertised and usually sent to all previous suppliers and then the procedures follow the authority's internal regulations for dealing with tenders. A typical grouping of commodities for tendering purposes would be:

- Ironmongery
- Building and plastering materials
- Plumbing materials and sanitary ware
- Heating engineers' and metalsmiths' materials
- Pre-cast concrete
- Electrical cables and flexes
- Electrical accessories
- Mouldings and laminates
- Paint brushes
- Paint
- Miscellaneous building items

Tenders are invited on a quantity call-off basis, the quantities being approximately equivalent to one year's consumption. Tenders are evaluated by the purchasing section and should take account of price, quality and service (delivery times). It may be appropriate to select two firms for each commodity, notifying one of its success and holding the other in reserve in the event of an interruption of supplies from the first selected firm. It is not necessary to award the contract to one firm for the entire range of commodities in each group. The authority should choose the best buy for each commodity but ought to avoid, for reasons of administrative economy, having too many annual contractors within one group of commodities.

13.2.3 Individual quotations

This method is used for larger or less frequently used items such as copper boilers or joinery in bulk for the mill (for which the price is likely to fluctuate considerably during the course of a year), and for contractors. The number of quotations to be invited will depend on the value of the order and the internal regulations, but three is a typical figure. Similar criteria for selection apply as for annual contractors but since these types of purchases are often to meet specific job requirements, delivery time may be given extra emphasis.

13.2.4 Direct purchase

The stores cannot be expected to stock every small item likely to be required by the DLO, nor would it be economic to do so. Therefore there has to be the facility for direct purchase of such items. Some authorities insist that all such purchases are made through the stores, whilst others permit depot supervisors to authorise such orders up to the value of, say, £25 or £50. Sometimes, for items above the limit, the DLO supervisor or storekeeper can request the purchasing section to obtain telephone quotations for emergency supplies, as an alternative to direct purchase. Direct purchase by depot supervisors can give a useful flexibility to the DLO but there has to be a proper control over the procedure. Also it is necessary to weigh the benefit of this flexibility against the likely extra cost of small purchases compared with procurement in bulk. A large volume of direct purchases may also be administratively expensive because of the checking and large number of small payments involved. Occasionally stores may purchase very small items from petty cash, if a supplier has a minimum charge of, say, £15 for official orders.

13.2.5 Consortium purchase

The fashion for bulk procurement through consortium purchasing appears to be passing. One authority in the sample was in the process of withdrawing from the consortium arrangement for items used in housing improvement and conversion, such as sink units, but another district authority obtains almost all its supplies under an agency arrangement with its county.

Consortium procurement is perhaps most suitable for items within a small range (for which there is little administrative complexity) but with a large turnover so that the benefits of bulk purchase can be fully exploited. An example is paint in a small range of colours, and the Greater London Council operates such a system for itself and the London boroughs.

One of the costs of consortium purchase is the fee that is charged by the consortium or agent which organises the purchase. This has to be set against the benefit gained from bulk purchase. A DLO should review this trade-off at regular intervals and should not be compelled, for policy reasons, to buy through the consortium if there is not a clear financial advantage in doing so.

13.2.6 Documentation

The documents likely to be required are:

- * Stores requisition: triggered by the stock control system, this is the request from the stores to the purchasing section to raise an order on a supplier
- * Official order: this is the order from the purchasing section to supplier in response to a stores requisition
- * Direct purchase order: this is an order from stores or depot to supplier direct
- * Direct purchase note: this is the authority given by a depot supervisor or stores to a supplier to supply goods, often after a verbal enquiry regarding price. It is followed up by an official order from the purchasing section

The number of copies of each document should be minimised consistent with achieving the following, whatever the method of procurement:

- * Recording requisition made or order raised in the originating section
- * Informing stores that an order has been raised in response to a requisition
- * Informing the supplier of the goods required so that he can deliver and raise an invoice
- * Informing the purchasing section of goods received, so that the invoice can be certified when received
- * Informing the costing section or finance department of goods received so that a commitment can be raised.

Whenever orders are made care needs to be taken to see that the possibility of confusion or error is minimised by:

- * Describing items correctly
- * Entering supplier's catalogue codes and DLO stores catalogue codes
- * Entering correct cost codes for charging purposes
- * Ensuring that units are correctly stated (these should accord with stores catalogue, bin cards and supplier's catalogue)
- * Ensuring that amounts are correct

14 ESTIMATING, CHARGING, FINANCIAL MANAGEMENT INFORMATION AND COMPETITION

14.1 INTRODUCTION

14.1.1 Scope of this section

The accounting and competition framework for DLOs is set out in the Act and statutory instruments (Bibliography references 12,13 and 15) and detailed guidance is given in the CIPFA Accounting Code of Practice for DLOs, CIPFA Financial Information Services Volume 5, and DOE Circulars 10/81 and 6/82 (Bibliography references 5, 6, 11 and 14). This section does not repeat the content of these references, except in general terms in certain instances in order to provide definitions or a readily understood summary (which has no legal force). This report is more concerned with discussion of the issues arising and the implications in management terms for DLOs, in the context of the results of the survey of the sample DLOs and broader general experience.

14.1.2 DLO accounting structure

The purposes of the accounting system are to:

* Demonstrate clearly and continually the financial position of the DLO

* Provide a basis for measuring its performance

* Show its relationship with other departments of the authority, including ensuring that client departments pay appropriate charges for the service provided

* Meet statutory and audit requirements for accountability

* Provide information to assist management at various levels to control operations of the DLO

DLO accounts generally follow a standard pattern comprising:

* Financial accounts which contain details of income and expenditure for the DLO as a whole. These are subdivided into the four categories specified by the Act (highways and sewers, new construction of works costing more than £50,000, new construction costing less than £50,000, maintenance)

* Cost accounts which produce information to assist management control and to charge clients

* Holding acounts to record payments which cannot yet be allocated direct to a head of expenditure, eg cost of materials held in stores pending issue to a job. A DLO normally has holding accounts for labour, materials, transport and plant, general overheads (which is usually subdivided - see Section 14.4.1)

Costs fall into one of two categories:

- Prime costs, usually labour, materials, transport, plant and direct charges (eg subcontractors), which can be charged direct to job codes (for maintenance work, transport and plant may not be regarded as prime costs)
- Overheads, which are charges that cannot be identified directly with a specific job, but have to be recovered as a component addition (usually a percentage) to prime costs.

Each local authority has its own method of dealing with the accounts in detail, and in the wake of the Act many were in a state of transition at the time of the study. It is not proposed to provide detailed descriptions or comparisons of systems used by the sample DLOs, but recommendations on the financial information that should be available to assist DLO management are given in Section 14.5.

14.2 STATUTORY REQUIREMENTS

14.2.1 Works contracts and estimates for functional work

The Act distinguishes between direct labour work carried out under a works contract and functional work. A works contract is a formal agreement between one local authority contractor to carry out work for another public authority client, for example, a health authority or another local authority, but it does not cover work where the client authority is responsible for the work as agent of a Government department (in the person of a Minister of the Crown) or in other specific cases defined in the Act. Functional work is work that the authority carries out as one of its functions or as an obligation under an arrangement to discharge the functions of a Government department, water authority, or another authority as defined in the Act. Work carried out under agency agreements is functional work.

The distinction between works contracts and functional work is necessary for reasons of legal definition because a contract would normally be reckoned in terms of the value of work and the method of calculating that value would be known in advance through the terms of the contract, whereas functional work would hitherto have been charged at cost after the event. However, now that an authority (or its DLO) has to make a positive rate of return on its capital employed for all work, and it has also to prepare a prior written statement of the charge to its client or of the method of calculating the charge in respect of functional work, the distinction is immaterial in practical terms to the DLO manager. All DLO work is now subject to a prior written estimate or statement of method of calculating the charge, and because of the rate of return requirement all work has, in effect, a value (the charge to the client) and a cost (to the DLO).

14.2.2 Size of DLO subject to the Act

The Act applies to all authorities which have more than 30 persons engaged on direct labour construction or maintenance work, whether or not they are organised into different DLOs.

14.2.3 Revenue account for maintenance

For the purpose of reporting on DLO performance, the Act and statutory instruments require an authority to keep four revenue accounts on each of which its direct labour workforce has to make a positive rate of return on capital employed. The account relevant to this report is that for "works of maintenance within the meaning of the 1970 Act other than such works of maintenance in connection with highways or the maintenance of a sewer" (SI 1981 No 339 - Bibliography reference 12). The 1970 Act is the Local Authorities (Goods and Services) Act 1970. Its definition of maintenance is not very helpful for those seeking a precise definition; it states: "works of maintenance include minor renewals, minor improvements and minor extensions." The DOE, in Circular 6/82, recognises that some authorities have had doubts as to where the line between works of maintenance and other new works (in other revenue accounts) should be drawn, and it emphasises the point that only "minor" works may be included within the scope of maintenance. It suggests that work involving the substantial rehabilitation of buildings should be treated as "other new works", at least for the purpose of tendering. However this still seems to leave a question mark over the status of work such as programmed schemes of re-roofing, thermal insulation, replacement of plumbing or heating appliances.

One of the consequences of each authority keeping four revenue accounts for construction and maintenance work is that when the performance of the direct labour workforce is assessed, the work of different DLOs may be lumped together depending on the type of work they do. Thus if an authority has both a general property and an in-house DLO, their maintenance work will fall into one account for the purposes of reporting. It is necessary therefore to ensure that both are effective in meeting the rate of return requirement, otherwise the weaker may pull down the stronger with it. It remains to be seen how far the Secretary of State would look at the performance of DLOs separately in the event of an authority failing to make the proper rate of return for three consecutive years or otherwise being required to prepare a report.

14.2.4 Competition

The Government decided in March 1982 that a greater proportion of maintenance work should be subject to competition than hitherto. The details are given in DOE Circular 6/82 and SI 1982 No 325 (Bibliography references 14 and 15). Works of maintenance estimated to cost more than £10,000 are to be submitted to competitive tender by at least three contractors (in addition to the DLO if it wishes to bid). The new requirement, commencing on 1 April 1983, is that when, in any financial year, the total value of jobs under £10,000 carried out by the DLO exceeds 70 percent of the total value of such jobs carried out by the DLO and contractors in the previous financial year, or £300,000 (whichever is the greater), thereafter for the remainder of the year such jobs shall also be submitted to competitive tender by at least three contractors as well as the DLO. Transitional arrangements apply to 1982/83, in that the relevant figures are 70 percent of the value of all jobs under £10,000 carried out by the DLO and contractors between 1 October 1981 and 31 March 1982, and £150,000.

14.2.5 Definition of a job

The definition of a job was tightened up in the 1982 Competition Regulations from "work for which a separate written statement of estimated cost is prepared" to "work which can reasonably be carried out most economically and efficiently under one arrangement." This carried into statutory form the guidance which was given in DOE circular 10/82.

14.3 ESTIMATING AND CHARGING

14.3.1 Methods of estimating and charging

The CIPFA Accounting Code of Practice for DLOs describes five acceptable methods of meeting the requirements of the Act for prior estimates or methods of calculating the charge to clients. In order of preference these are:

- Lump sum quotations
- Schedule of rates
- Rate per productive standard hour
- Dayworks rates
- Bulk estimates (per week, month or year)

At the outset the Government had indicated that it would prefer to see bulk estimates used for no longer than the first year of operations under the Act and the March 1982 Competition Regulations have the effect of reinforcing the move towards the adoption of schedules of rates.

The methods of charging clients by DLOs in the study are shown in Table 14.1. For responsive maintenance the majority of DLOs use dayworks but two DLOs base their charges on productive standard hours; One DLO uses a schedule of rates for about half its work and another for particular trades. For the larger, programmed jobs, some DLOs give lump sum quotations but productive standard hours and dayworks are used by others. Most DLOs were aiming to produce a schedule of rates for use in 1982/83 or the following year, but these targets are likely to be revised in the light of the March 1982 Competition Regulations.

Estimates for lump sum quotations and schedules of rates can be either in bill of quantities form, based on principles similar to the standard method of measurement, which is output-orientated (ie in terms of completed work); or in a form more akin to work study specifications, which could be termed input-orientated because it is concerned with the detailed operations which comprise a complete job. Particularly for maintenance work there is some overlap between the two approaches, but in principle the former may be preferable from the client's point of view because it does not require any knowledge of the incentive schemes or the operations that make up completed jobs. In some cases clients are given copies of the bonus scheme specifications and rates per productive standard hour for the trades, but it may well be difficult to ascertain the actual charge for a job beforehand, because the client would not necessarily know the operations involved nor whether all allowances for necessary non-productive time were included in the rates per productive standard hour. However, output-orientated schedules such as the PSA schedule can be just as complicated as input-orientated schedules based on bonus schemes, and because of the effort and expense involved in converting the latter to the former, it is likely that many DLOs will use bonus scheme-based schedules for building maintenance.

Where schedules of rates are used, the estimates for the labour content are usually based on costs per productive standard hour provided by the finance department (or DLO cost accountant if one is in post), with assumptions about non-productive time and performance. For lump sum estimates for the larger jobs, depending on the background of the estimator, the estimates may be based on his own experience of pricing, published data on prices, or actual work study and cost data; this last would be the preferred method of pricing.

Table 14.1 Methods of estimating/charging by sample DLOs

Type of authority	Type of DLO	Method of estimating/charging Programmed work	 Responsive maintenance
LB	General property	Bulk estimate	Bulk estimate
LB	In-house	Dayworks	Dayworks
MB	In-house	Lump sum	Productive standard hour
DC	General property	Productive standard hour	Productive standard hour
DC	Works department	Lump sum	Cost +3% for urgent jobs (45% of work-load). Lump sum based on schedule of rates for others
MB	General property	Dayworks generally but schedule of rates for plumbing and glazing	Dayworks generally but schedule of rates for plumbing and glazing
MB	In-house	Dayworks	Dayworks
DC	Works department	Lump sum	Dayworks
LB	General property	Lump sum	Dayworks
CC	General property	Lump sum	Dayworks

With the increased emphasis on DLOs winning work by competition, there will necessarily be more concern by DLO management for market rate pricing; pricing based purely on productive standard hour costs may no longer be adequate. If this is the case a DLO, in addition to seeking other ways of improving its efficiency, may consider turning to a market-orientated bonus scheme (See Section 15.12.2).

Whereas in many cases responsive maintenance is not subject to prior written estimates, but simply a statement of the method of calculating the charge, nonetheless the Act has already resulted in a good deal of estimating that was not undertaken prior to April 1981. Typical criteria as to whether a job would be subject to prior estimate, as noted during the study, were:

* Jobs over a particular value. Figures mentioned included £100, £500
* Jobs which involve alterations to a building (even if the work value is very small)
* Jobs specifically itemised in the annual estimates
* Repair of housing voids
* All non-urgent jobs
* Jobs for clients outside the authority under an agency agreement, unless of an emergency nature
* Jobs where the work content is known in advance

14.3.2 Schedules of rates

Many authorities are making their own arrangements to produce schedules of rates suitable for their particular circumstances, although for some maintenance work on public buildings, which may vary considerably, schedules may not be considered appropriate by the authorities concerned; this is most likely to be the case for county DLOs. However DOE Circular 6/82 draws particular attention to three developments:

* The Interim Users' Guide to Schedules of Rates, published by the Institution of Municipal Engineers and CIPFA (Bibliography reference 16)
* Guidance prepared by the Association of Metropolitan Authorities on alternative forms of schedule already in use (Bibliography reference 17)
* National Schedule of Rates (Bibliography reference 18)

The formats and contents of schedules developed by individual authorities are likely to vary considerably, because most will probably be closely linked to the bonus schemes, which themselves differ (see Section 15.6). Some schedules quote all-in prices, whereas others have the prices subdivided, for example, as :-

* Total quotation

* Labour including oncost

* Materials including oncost

* Planning time (the time used to assess the total time required for the job, for use in planning cyclic maintenance).

The interim users' guide gives details of differences between the schedules noted in its survey.

14.3.3 Staff resources for estimating

This is an area where the Act has had a major impact on DLOs themselves (as opposed to administration divisions and finance departments) and resources have been under pressure. In most cases some reorganisation has been necessary, by transfer of estimators to the DLO, but DLOs which have already started to estimate for smaller repair jobs have found that this can easily lead to delays in the chain of activities which form the repairs procedures. In some respects works department DLOs have fared best in the circumstances because they were more accustomed to making estimates as if in a quasi-trading situation. A method they have adopted is to have the estimates prepared by the technical control unit or similar section representing the client, on the basis of the DLO's productive hourly rates or a schedule. This has probably evolved more from the existing staffing situation rather than as a deliberate policy to reduce DLO overheads, which in effect it does.

Authorities have generally attempted to manage without increasing staff complements, even if this does lead to delays in repairs or slows the rate at which prior estimates for all jobs becomes more widespread. This is understandable when all DLOs were feeling their way in the new environment but should perhaps be reconsidered after a year's experience of operating the Act. It is perhaps surprising that the study did not reveal evidence of efforts to second or transfer staff from other technical departments (eg surveyors from the architect's department) to assist with the estimating workload, particularly the preparation of a schedule of rates. However, some DLO managers question whether such staff would possess the appropriate skills for this in the maintenance context. Another problem with seconded staff is that the department loaning them might not send its best men and the DLO managers would be reluctant to accept the second best for an activity so crucial to survival as estimating.

One of the immediate effects of the pressure on estimators in one authority was that the annual inspection by them of all public buildings to ascertain the most important repair items for the following year's programme has had to be abandoned. This is an unfortunate drop in the standards of care for the buildings and is likely to lead to an ad-hoc approach to repairs; important items may be missed or postponed for want of a regular inspection. One palliative measure would be for an estimator, if he does have to visit a building for an estimate or in connection with work in progress, also to inspect the building and record the findings in the property file; the files could then be scanned rapidly for important jobs at the time of preparing annual estimates and detailed inspections made as necessary. Another possible consequence of the shortage of estimators is that extra work or variations may not be fully claimed and thus legitimate opportunities to contribute to the DLO's viability may be missed.

14.3.4 Unforeseen work

In the ideal client/contractor situation, the client should be in a position to authorise any cost additional to the prior estimate before work is carried out. However for maintenance jobs, which are essentially of short duration, this is unlikely to be possible without unduly holding up the repair. It is necessary therefore that procedures be devised firstly for the DLO to record any extra work that needs to be carried out, and secondly for this to be checked on behalf of the client and at least authorised retrospectively. The DLO should ensure that a foreman authorises any extra work before it is carried out, and he should be responsible for ensuring that the work is recorded on the job card (the card has to have space for this) and that the card is passed to the DLO estimating section for valuation. If there is a technical control unit between the client and the DLO, then it should scrutinise the orders with extra costs and authorise them; this can be done before the DLO is credited if all job cards are passed back through the unit. Otherwise it will be necessary for extra charges to be referred back to the client department and it would lead to unacceptable delays if they had to be authorised before being credited. In this case there needs to be a facility for the charge to be cancelled or varied if the client department disputes it.

Another aspect of unforeseen work is the problem of estimating for jobs which involve fault-tracing, as is often the case with electrical or heating repairs. The job is reported as some kind of failure and the works order worded in those terms, rather than as a specific order to carry out particular work. In tracing the fault a good deal of work necessary for the repair will have to be done, for example if some dismantling of an appliance is involved. This type of work is perhaps best covered by a schedule of rates for regularly occurring items and perhaps dayworks for unusual jobs requiring dismantling and fault-tracing. Jobs of this nature may have to be subject to the variation order procedure, but it would be preferable to have all-in rates wherever possible, including fault-tracing.

14.3.5 DLO charging

Hitherto clients have not generally been able to exert much influence over DLO charges for repair work but this may change under the new Competition Regulations if they result in client departments becoming more market orientated. However there are examples where the client does already have an influence. In one authority the housing department assesses the jobs before orders are passed to the DLO (a general property DLO) and in another authority the technical control unit assesses and estimates the non-urgent responsive maintenance jobs; but in neither of these cases does the client influence the labour rates. Thus clients are, in general, captives of the DLO and indeed this is often the policy of the authority, and at this level the matter becomes a political issue beyond the scope of this report.

One aspect debated in some authorities at the time when new procedures for operating under the Act were being devised was whether the client should sign some kind of completion certificate before the DLO was credited for a job. It is however generally agreed that such an arrangement is impractical for the volume of work represented by responsive maintenance, though it is right that larger jobs should be checked on behalf of the client before the DLO is paid. The nearest approach for responsive maintenance is the case in which all job cards are channelled through the technical control unit for authorisation before being keyed into the computer system as completed. This would allow any exceptional items to be noticed.

Ideally a DLO's charge rates would be held fixed for a complete financial year but in practical terms this is probably not possible in an inflationary period. Staff salaries are reviewed in July and operatives' pay in November; the results of both will be unknown at the beginning of the financial year. Also a DLO may find that it is not carrying out sufficient work to recover its overheads and so the facility has to exist for altering the charge rates during the year. However, the circumstances in which this is permitted should be set out in advance, preferably with the acceptance of client departments. In the first year of operating under the Act, many DLOs were intending to review their charges at the half year and in some cases quarterly thereafter. The ability to review charges does of course depend on having an adequate system for producing overhead recovery statements.

Typical hourly rates being charged by DLOs during 1981/82 are shown in Table 14.2. As can be seen from the notes in the table, the rates are not directly comparable. Some DLOs use a uniform rate for all trades whilst others use different rates for different trades, a useful arrangement if each trade group at a depot is regarded as a DLO cost centre for management purposes, but otherwise perhaps an unnecessary refinement. In the DLOs where trade rates do vary, it may be noted that whereas in all three cases plumbers and heating engineers tend to be costly trades, electricians are the most expensive in one case and cheapest in another (excluding labourers); the electricians in this DLO have a standing supplement to their pay in lieu of a bonus scheme.

Table 14.2 : Examples of DLO labour rates in 1981/82-based on initial estimates

Type of authority	LB	MB	DC	DC	MB	DC	CC
Type of DLO	In house	In house	General property	Works department	General property	Works department	General property
Type of charge	Day-works (£)	Productive standard hour (£)	Productive standard hour (£)	Productive standard hour *(see note) (£)	Dayworks (per productive hour) (£)	Dayworks (per productive hour) (£)	Dayworks but includes travelling time (£)
TRADE							
Plumber	8.18	7.52	5.97	5.82	5.92	7.12	6.50
Joiner	8.18	5.75	5.97	5.59	5.92	6.93	5.29
Bricklayer	8.18	5.71	5.97	5.59	5.92	6.76	5.31
Painter	8.18	5.41	5.97	5.59	5.92	5.59	5.51
Plasterer	8.18	5.71	5.97	5.59	5.92	6.64	5.54
Electrician	8.18	10.92	5.97	5.38	5.92	7.41	7.71
Heating engineer	8.18	8.39	5.97	4.97	5.92	7.57	5.83
Labourer	8.18	5.71	5.97	5.63	5.92	6.20	5.97
Average	8.18	6.89	5.97	5.63	5.92	6.78	5.97
Location	London	North West	East Anglia	Wales	North East	Midlands	Wales

* Note: The rates in the table for this DLO exclude a supplement of 3% on each rate to achieve the return on capital.

The sample is too small to indicate any regional bias in the level of rates (and in any case they are not directly comparable) but these and other data do suggest that maintenance in London tends to be more expensive than elsewhere: the reason for this is not apparent and may merit further investigation.

14.4 OVERHEADS

14.4.1 Overhead categories

The CIPFA Financial Information Services Volume 5 (Bibliogrpahy reference 6) suggests that a minimum of two overheads accounts are necessary and divides overheads broadly into three categories:

- Labour overheads which include direct employment costs (national insurance, pension and superannuation contributions, sick pay, holiday pay) supervisory salaries and wages, travel allowances, tool money, standby payments, training, protective clothing, redundancy payments, third party and employer's liability insurance, and non-productive time (union and health and safety activities)
- Materials overheads to cover purchase and handling of direct materials, and the costs of operating and financing the stores (including its share of departmental and central administration costs)
- General overheads including all other expenditure not directly charged to jobs such as financing charges, departmental and central administration costs.

For maintenance work DLOs recover overheads on the prime costs of either labour and materials separately or labour only (plant is normally such a small prime cost for maintenance that, with the exception of large items of cost which can be charged direct, it is generally recovered as a labour overhead). Table 14.3 gives an analysis of overheads in percentage terms for six DLOs; it also indicates the number of overhead accounts that are operated (excluding subcontractors and private contractors accounts). Despite the existence of more than two accounts in some cases, the overheads are nonetheless recovered only on the two prime costs, labour and materials. In one of the DLOs, a works department DLO, all overheads including the cost of stores are recovered on labour (although for the purposes of comparison in Table 14.3 stores costs have been excluded). Some DLOs establish different overhead rates for different types of work, eg painting and general maintenance.

14.4.2 Analysis of overheads

In making the analyses in Table 14.3 it was apparent that authorities define their overhead classifications in different ways so that in many cases across-the-board comparisons of particular items are not possible. However a few interesting points do emerge. There appears to be a surprisingly wide range in the percentage applied to the labour base (gross wages including bonus) for direct employment costs, from 20 percent to 56 percent. The reasons for this were not clear from the data available but they could include differences of definition as well as differences in assumptions about non-productive time.

Table 14.3 : Analysis of overheads in seven sample DLOs (1981/82 estimates)

Type of authority	LB	LB	MB	DC	DC	DC	CC
Type of DLO	General property	In-house	In-house	General property	Works dept.	Works dept.	General property
Size of DLO (total number of operatives)	128	192	376	82	634	655	351
Number of overhead accounts	2	2	2		4	1	6
OVERHEAD CATEGORY (1)	%	%	%	%	%	%	%
Direct employment costs	31.9	29.5	47.1	23.0	40.8	42.8	30.8
Central administration	7.3	6.3	(24.6	23.8	7.8	4.6	8.8
Direct administration	12.0	4.8	(	20.2	26.1	20.1	21.3
Direct supervision	8.9	7.8	9.3		6.3	11.8	
Bonus administration	11.1	12.0				2.8	
Premises	5.0	5.8	4.8	3.5	7.3	6.2	6.3
Allowances	2.9	1.3	3.8		1.1		
Tools	1.6	1.1		(4.2	(5.5	(2.6	(2.3
Plant		1.6	(6.8	(	(	(	(
Transport	9.4	17.4	(	12.9	1.9		24.4
Travelling	3.6	6.7			0.4		3.3
Training					1.9	3.5	0.4
Insurances	0.1				0.3		0.3
Emergency standby					0.6		
Replacement costs	0.1					0.6	
Financing charges	0.5		1.6	8.7		2.2	0.7
Return on capital	1.3	1.8	2.0	2.7		1.3	1.4
Contingency	4.3	3.9					
Other				1.0(3)		1.5	
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0 (6)
Deduct stores costs included above					(10.4		
Deduct recharges elsewhere	(0.1)						(12.6) (7)
Net charge on labour base (%)	139.6	137.6	118.0	87.1	94.6	122.2	120.9
Direct employment costs as % of labour base	44.6	40.6	55.5	20.0	43.0	52.3	42.5
Overhead cost per operative (£)	6916	7333	4212	4682	3625	4922	4681

Notes to Table 14.3

(1) Where a blank cell occurs in the table, the charge under that heading, if any, is presumed to be included under one of the other headings.

(2) This contingency is termed "provision for inflation".

(3) Estimated cost of radio control facility.

(4) Return on capital is not included in labour overhead. It is levied as a 3% surcharge on labour and materials costs including the respective oncosts.

(5) This figure excludes transport in this case; transport is charged direct to job codes.

(6) The overheads noted for this DLO are the total overheads for the DLO maintenance account, DLO minor capital works account and revenue account outside the scope of the Act. These accounts comprise 71.5 percent, 27.1 percent and 1.4 percent respectively of total DLO expenditure.

(7) This is termed "administration service charge".

The overhead cost per operative varied in the sample from £3625 to £7333 and the net charge on the labour base varied from about 87 percent to about 157 percent. (This latter figure is for an authority in the sample but the detailed breakdown for Table 14.3 was not available). Two London boroughs estimated overheads at about 140 percent and 157 percent -see Section 14.3.5 for comments on costs in London. However, although comparisons can be made in the broadest sense, they should be treated very carefully; for example transport is not included in one case as it is a prime cost. The return on capital element is generally between one and three percent of overheads, in other words less than two percent of total DLO costs and not therefore a major element in DLO viability at its present level.

The major overhead costs are supervision and administration, which vary from 30 to 44 percent (including direct supervision, direct and central administration and bonus administration). This is the area to which DLOs will need to devote the most attention if they are having difficulties in meeting the rate of return requirement. Central administration which is often a bone of contention in the view of DLO managers appears to be less than ten percent of overheads in most cases. It is nonetheless likely that DLO managers will wish to examine the central charges carefully to negotiate reductions where possible, although there may be greater potential savings in their own departments.

14.4.3 Implications of the Act

Apart from the obvious need to examine the overheads closely for possible reductions, the Act will have had at least three other significant effects.

The first is a requirement for staff to consider carefully the allocation of their time between client and contractor roles when they are not wholly one or the other. Because of the nature of local authorities, a good number of staff in each authority may be affected in this way, particularly those who are involved to some degree in servicing council committees. Whilst for the first year the division of time was probably fairly rough and ready in most cases (an assessment by departmental managers and the finance department), it may be appropriate to attempt to obtain a more accurate assessment by keeping time sheets or a diary for a period, say three months. A related problem, if a DLO carries out work under more than one DLO revenue account and also has separate labour overheads for each, is the allocation of the time of staff in dual roles between the different accounts.

A second issue prompted by the Act is the frequency of review of overheads, discussed in Section 14.3.5. It is important that under-recovery is made apparent to DLO management as soon as possible so that necessary remedial action can be taken - increasing charges or shedding labour and/or staff (this will take time to have an effect but may nonetheless retrieve the situation if circumstances are dire and decisions are made promptly). It is of course important that any changes in overhead rates are notified to the DLO estimators as soon as they occur.

Because of the way in which work was often costed prior to the Act by men booking their time against fairly broad cost codes, it is quite possible that some DLOs will have found they were making a substantial under-recovery of overheads after the Act if they had changed to a job costing system. This is because time spent non-productively, for example in collecting pay from the depot, was formerly booked against the broad cost categories, eg housing repairs, on which the men were working at the time, whereas under the new arrangement that time would be a cost against the overheads. One DLO in the sample realised after the first six months that it had to increase its overhead recovery rate by 26 percent largely because of this factor.

Besides the need to ensure a fair apportionment of overheads to the DLO, that is, only those costs directly related to its operation as contractor, it is also pertinent to note that these are bound to include an element which cannot be precisely determined but which relates in effect to the cost of the democratic processes of the authority. However, if such costs can be identified, then it would seem reasonable to show them separately within the DLO accounts.

Although losses have to be charged, first to any reserve, otherwise to the general rate fund, another question being discussed by DLO managers and accountants is the treatment of DLO surplus. One manager of an in-house DLO was hoping that any profit would be ploughed back into the housing revenue account for repairs. Other suggestions for dealing with a profit, other than applying it to the general rate fund, are to set up a DLO reserve fund in order to:

- Retain it to enable the DLO to tender at low rates if the market requires this
- Retain it to improve the facilities of the DLO (plant, depots, welfare) with a view to improving general efficiency

14.5 FINANCIAL MANAGEMENT INFORMATION

14.5.1 Job costing

Prior to the Act most authorities costed individual jobs only if the cost was above a particular level, for example £500. For smaller jobs the costs were charged against broad categories, such as "internal structural repairs", "water and sanitary services" for housing (usually related to the headings recommended in the 1964 Report of the Working Party on the cost of management and maintenance of local authority housing (Bibliography reference 24), although not all surveyors or DLO managers have found these the most suitable for analysis of repairs), and perhaps the building concerned, eg a particular school or town hall, for other building maintenance.

Under the new accounting framework it is necessary to make the distinction between job cost as far as the client is concerned, more properly termed the charge for the job, and job cost as far as the DLO is concerned, in other words the cost to the DLO of carrying out a particular item of work. During the first year and a half of operations since the Act, it has not been necessary to identify the charge for each individual job, providing that the method of calculating it was determined in advance, and some authorities have continued to charge responsive maintenance works orders against broad categories as hitherto. However the March 1982 Competition Regulations, which take effect from 1 October 1982, are likely to have the effect that the charge for each individual job will be identifiable. That is to say, the individual job charge will be ascertainable from the schedule of rates. Client departments are likely to require individual job charge information for use in the analysis of costs for individual buildings and by maintenance category.

However as far as the DLO is concerned, the extent to which the costs of individual small jobs need to be separately identified remains debatable. The purpose of establishing cost centres in an accounting system is either for accountability or for management reasons. The establishment of individual job costs for small jobs is not necessary from the accountability point of view, and it is questionable whether it adds to DLO management's ability to control costs. It may therefore be more appropriate for DLOs to consider cost centres other than the individual job for management purposes, for example:

- a gang under a foreman
- a trade at a depot
- an identifiable section, eg joinery mill, electrical section

If it were necessary for any reason to know the cost of an individual small job, it could be reconstructed from the source data. For larger jobs, for which it is desirable to know the individual costs, it would be possible (since each job has to be uniquely identifiable anyway from the charging point of view) to trigger the system to produce details of DLO costs on jobs exceeding a particular value. Because of the ease with which large amounts of information can be processed by computer, many authorities have opted for individual job costing and it has become a voluminous industry. However two important questions need to be asked:

- Who looks at all the costs?
- What decisions are taken on the basis of the costing information?

14.5.2 Information requirements for management

The levels at which it is suggested that DLO management should have information are:

- For the DLO as a whole
- For each depot
- For each gang or section to be regarded as an operating cost centre
- For each major job (estimated at more than £1,000, ie about 15 man days plus materials)

In order to be able to control expenditure promptly, management needs to have information on costs and income as soon as is reasonably possible after it has occurred and provided that the accounting system can produce the information quickly, weekly intervals are appropriate. If however accounting systems are in a state of flux or have not yet been developed for a frequent turnaround, it makes more sense to produce management information for monthly periods as soon as possible after the month end, rather than for weekly periods five or six weeks out of date, when it is too late to use the details.

The type of information appropriate for DLO senior management at the regular reporting intervals (ie weekly or monthly) includes:

(1) Income credited for each gang, section, depot and the DLO in aggregate: for the period and cumulative to date against budget

(2) Expenditure by source (wages, bonus, materials, direct charges) including oncosts for each gang, section, depot and the DLO in aggregate: for the period and cumulative to date against budget

(3) Commitment at end of period for each gang, section, depot and the DLO in aggregate, ie value of works orders received but not yet completed

(4) Expenditure on each overhead category and in total to date against budget

(5) Total value of overheads recovered through charges to clients to date (hence determination of over- or under-recovery)

(6) Income credited and expenditure by source on each major job completed during the period, compared with estimate

(7) Expenditure related to percentage progress for each major job in progress at the end of the period

(8) Cumulative charge and commitment to each client to date against budget

(9) Actual and committed expenditure on contractors (subcontractors) during the period and cumulatively to date against budget

(10) Value of materials in stores at end of period

(11) Value of stores issues and direct purchases during the period and cumulatively to date

(12) Prime cost and oncost per productive standard hour during the period and cumulatively to date for each gang, section, depot and the DLO in aggregate, compared with budget.

(13) The extent to which profits or losses on ongoing contracts have been taken into the accounts and whether it is likely that any further provision will have to be made.

(14) Details of tenders won and lost during the period.

The trading position for each cost centre would be approximately indicated by items (1) and (2). These would not give an exact indication because there would be distortions if there were marked differences between work in progress at the start of the financial year and at the end of the period under review. However it would give a reasonable picture for management control purposes.

The work-in-hand would be shown by item (3) for each operating cost centre. This would represent work in progress and work not yet started. Related to the annual budget it would indicate roughly how many weeks work each section had, and hence whether it was necessary to urge clients to issue more orders in particular areas. It would also indicate which sections were in a potential overload situation.

The position on overhead recovery would be indicated by items (4) and (5), and the rate of expenditure on each category of overheads could be monitored, with explanations sought for significant variances from the budget. Overhead recovery can be one of the important indicators of a need to alter the charge rates. The profit and loss account is not sufficient in this respect; a DLO may have been credited to date with a sum greater than its expenditure, but if its rate of earning is less than the assumption made when the overheads were apportioned as percentages on prime costs, the overheads will not be fully recovered and the DLO will be in a loss position at the end of the year unless changes are made (a faster rate of work for the rest of the year or increased charges to recover the overheads).

Items (6) and (7) would enable the position on major jobs to be monitored. Explanations would be sought in cases where expenditure exceeded income on completed jobs. On jobs in progress where the rate of expenditure exceeded the rate of measured progress (however assessed, whether by measurement or informed estimate), remedial action would have to be considered to retrieve the situation. If it appeared that clients were not pushing orders through quickly enough to meet the expected commitment as indicated by the budget, item (8) would highlight this. For maintenance work it would be normal for commitments to be at least a month in advance of actual time expired (for example, by 30 September orders received should be at least 58 percent of budget compared with 50 percent of the year having passed), although charges may in percentage terms be less than the proportion of the year that has elapsed, because of the effect of work in progress.

The monitoring of expenditure on contractors, item (9), and stores, items (10) and (11), is discussed in Sections 16.3 and 13.1.7 respectively.

At the depot and gang levels the management information should be brief and readily comprehensible to the foremen. They will be more concerned with control information from the bonus scheme (Section 15.8) but it is right that they should now be encouraged to become more cost-conscious by giving them financial information in a usable form. To this end, the following are suitable:

* Income and expenditure details at depot and gang levels, items (1) and (2) above

* Commitments, item (3) above

* Expenditure on major jobs under the control of each foreman, items (6) and (7) above

* Cost per productive standard hour, item (12) above. This is a good indicator of the productivity of the gang or depot and is readily understood as it can be compared with charge-out rates. One method of ensuring that each foreman actually looks at this information is to require him to plot the weekly results for his group on a graph.

It is important when presenting financial reports to DLO managers and foremen only to show on the computer printout (or abstract therefrom) material that is relevant at the time for the review. This objective could be met by producing 'exception reports', which contain only information falling outside previously agreed parameters, for example, higher than normal cost per productive standard hour. Items within the acceptable parameters would be suppressed, as would details for past periods or completed jobs that have been shown before, in the interests of economy of paper and for ease of comprehension. If historic information or more detail is required, it could be made available on microfiche or VDU terminal. A relatively small amount of information is much more likely to be looked at and acted upon. Where necessary, foremen and managers should be encouraged to attend training seminars at which the uses of their management information can be explained and discussed.

14.5.3 Financial information for council members

It is to be expected that members of the committee to which the DLO is responsible will wish to review its financial performance at their regular meetings. The information should be relevant and concise, without superfluous detail but nonetheless similar in nature and format to that generated for DLO management; it ought to be possible to use the normal computer runs to obtain the information necessary for members. They would probably only be concerned with the performance of the DLO as a whole, unless particular sections were performing outstandingly badly or exceptionally well, and the following would probably be the most relevant:

* Income and expenditure to date compared with budget
* Total overhead expenditure and recovery to date compared with budget
* Number of major jobs completed at a loss since the previous report and the amount of loss incurred
* Cumulative charge to each client to date compared with budget
* Value of orders from each client to date, compared with budget
* Cost per productive standard hour for each trade compared with budget and charge-out rate

These indicators show the DLO's performance in relation to the salient parameters:

* Trading position
* Overhead recovery
* Workload position
* Productivity (expressed in financial terms)

If the DLO is an in-house DLO, it is likely that the committee members will also be interested in the cumulative charges to date compared with budget for each of the maintenance categories by housing management area.

14.6 IMPLICATIONS OF THE COMPETITION REGULATIONS

14.6.1 The local authority as a whole

The allocation of work between contractors and DLOs as found in the survey is discussed in Section 8.3. Authorities do not generally expose their DLOs to more competition than is required by statutory provisions, although some do allocate work to contractors as a matter of policy. However, the March 1982 Competition Regulations, requiring DLOs to tender for jobs below the £10,000 threshold if they undertake more than 70 percent of the previous year's workload in this category, creates a completely new set of circumstances for both client departments and DLOs.

One effect of the Competition Regulations will be to make explicit to the council members that the DLO is now in a situation where it has to make a profit (ie a return on capital) to survive rather than being regarded simply as one of the council's services, as may have been the case with some authorities in the past.

The accounting regulations and trading account philosophy behind the legislation have been welcomed by many connected with DLOs, despite the extra work involved, as being a logical step forward in the search for tighter management and greater efficiency at a time when resources are under extreme pressure. But the requirement for DLOs to tender for small maintenance jobs is seen as an extra dimension of complexity in the procurement of maintenance that is not bound to lead to greater value for money in view of the extra administration necessary and the possible effects on contractors and the market.

Whilst the proposition has not yet been tested, some take the view that the market may not be able to cope with the release of a substantial quantity of new maintenance work in a short period of time: although the work may be taken by the private sector, difficulties in meeting target completions may ensue. It is also feared by some that if DLOs withdraw from certain activities, unofficial cartels may begin to operate and so cause prices to rise. This situation will need to be carefully monitored in the local context,particularly if the DLO no longer exists as a benchmark for the private sector in such areas of activity.

Another market consideration is that the 1982 Competition Regulations are being implemented at a time when the industry is in severe recession. Many contractors may now tender for work who will not be interested in maintenance when an upturn occurs. Authorities, who may by then have run down their DLOs to deal with a reduced workload, might find that the balance of maintenance work can only be achieved by employing contractors at high rates because reasonable tenders cannot be obtained. That could be the only alternative to not doing the work, allowing the stock to deteriorate and, in the case of housing, risking both expensive litigation at the hands of disgruntled tenants and the ensuing political repercussions. Again these views are at present speculative, but it is right that local authorities and others should be aware of developments that need to be guarded against.

14.6.2 The client function

Whether this function is carried out by the client department itself or a technical control unit, the Competition Regulations have a number of important implications.

One of the first of these is to decide what work is to be offered for tender and how this will be done. During the final phase of this study prior to completion of the report, some of the sample authorities had taken final decisions but a number of possibilities had been mooted as to the work to be submitted for competition, for example:-

- All maintenance work for the year within a specified area, for example particular housing estates
- Planned maintenance jobs that would be below the £10,000 threshold
- Maintenance work during a particular period of the year
- Maintenance work in certain peripheral trades, for example glazing, roofing felt, or of certain main trades, such as electricians
- Areas of maintenance that are difficult; for example the maintenance of multi-storey flats
- A portfolio of, say 500 maintenance jobs

Authorities approach this issue in different ways, depending on the extent to which they wish to try to protect their DLOs. Whatever basis is finally chosen for the allocation of minor maintenance work for competition, it is important that contractors and the DLO are on the same footing in terms of information. Clients will have to give full details of the work required, specifying matters which have not been the subject of precise definition in the past, such as the service expected in terms of response times and trades to be available. If a schedule of rates is used as the basis of appointing contractors or the DLO, then when work is ordered it will also have to be ordered precisely, rather than letting the organisation undertaking the work decide on the quantities necessary. This may have been acceptable in the past when the DLO undertook all the minor maintenance work and was seen as one of the council's services, but it is not suitable for contractors, nor necessarily for the DLO operating as a trading concern.

Whereas the evaluation of tenders on a lump sum basis for larger maintenance jobs is a fairly familiar task, a methodology is having to be developed for the evaluation of schedules of rates for maintenace work in conjunction with the way in which work is offered. The single percentage on or off basis may not necessarily provide the best value for money unless schedules can reflect in competition different prices for similar jobs that are undertaken in different locations or circumstances. It is expected that the working group of CIPFA and the Institution of Municipal Engineers which prepared the interim users' guide on schedules of rates will be producing advice on their evaluation.

Clients will have to bear much of the cost of administering the Competition Regulations. The costs involved include:-

- The preparation of schedules of rates and contract documentation
- The evaluation of tenders and work entailed in awarding contracts
- The checking of claims by the DLO and contractors for extra work additional to that initially ordered
- The checking of contractors' invoices
- The inspection of contractors' and also DLO work

Although some of this work would have been done previously whenever contractors were employed, the scale of it is likely to be much larger in future because many small jobs will be involved, and whereas the DLO could in the past have been considered self-supervising, contractors ought to be regarded in this way. The probable move away from dayworks for contractors to schedules of rates is also likely to be more clerical-intensive, although there is no reason why schedules of rates and dayworks tenders cannot be run in tandem in appropriate circumstances.

One problem that clients in some authorities are meeting is that of finding suitable contractors to bid for the work. At a time of recession the vetting of contractors is difficult because of the rapid change in fortune that can overtake individual firms. But equally important, the requirements for a particular level of service and range of trade skills, and the ability to deal with a schedule of rates may eliminate from the competition some of the smaller firms hitherto employed on a dayworks basis.

A general effect of the Competition Regulations is likely to be to cause client departments to review their procedures for the employment of maintenance contractors, to ensure parity of treatment with the DLO and to ensure that the client role, which may be totally new to staff in situations where almost all maintenance work was hitherto undertaken by the DLO, is carried out as effectively and as economically as possible, with all the necessary safeguards.

14.6.3 The DLO

Tendering policies of DLOs themselves are seldom made explicit. The current approach appears to be to tender for work until sufficient is won to bridge the gap between that which is allocated to the DLO without competition and the amount necessary to keep the labour force productively and profitably employed; one DLO in the sample stated specifically that it did not intend to 'buy' work to keep men employed, although it did not rule out this possibility in the future if it had a surplus on which to draw to make good any resulting losses. However, there may be an adverse reaction from the private sector if it becomes known that a DLO was tendering with 'loss leaders'.

The March 1982 Competition Regulations introduced further uncertainty in respect of workload, in addition to the initial tendering requirements under the Act. Difficulties in planning and programming work may lead to inefficient working, perhaps particularly in DLOs where managers are aware of good management techniques and have streamlined their DLOs accordingly.

A related issue is the problem of protecting employment for a particular section of the DLO, which is known to be uncompetitive at present but to which improvements in efficiency are being made. A method needs to be found to channel work to it during the interim period, perhaps by requiring other parts of the DLO to tender for more than 30 percent of the relevant work for a period.

DLOs have traditionally given a lead in training apprentices for the building industry and they have been able to do this partly because they did not need to demonstrate that they were competitive. The extra costs (see Section 3.4.3), over and above those incurred by many contractors for training, could be absorbed in the overheads and hence the maintenance service generally. But in a competitive environment DLO managers will be looking closely at these costs and the level of apprentices may be reduced. This will have consequences for the future of the industry and may ultimately be reflected in higher maintenance costs if the skilled men are not available. Although the suggestion that the cost of apprentices should be excluded from the DLO revenue account to avoid DLOs having to take this position is not permissible, it is possible to draw attention to the amount of these costs in the notes to the accounts.

The requirement for tenders is placing an increased load on DLO estimators. Wherever possible use should be made of bonus control information for this purpose to ensure that prices reflect the reality of DLO performance, and this has to be related to the general level of market prices; cost-plus pricing in itself may not be sufficient.

14.6.4 Contractors

Besides giving them the opportunity for maintenance work to council properties not hitherto available in many authorities, the Competition Regulations may have a number of other effects on contractors, depending on local circumstances and the manner in which client departments offer the work for tender. The following situations may arise:-

* Contractors will have the ability to price a schedule

* Less work will be available for the private sector on a dayworks basis. Firms will be expected to give a quotation and stand by it. There will therefore be more cases in which the price is known in advance when work is ordered

* Firms will be expected to indicate response times for minor repairs

* In some areas firms may be required to make available a broad spectrum of trades

* There is likely to be more post-inspection of contractors' work

* In authorities where new job costing procedures have been introduced, firms may be required to invoice on a property-by-property basis, rather than simply rendering monthly accounts, as hitherto

* The private sector will have to bear with the consequences of more administration in authorities as the tender processes are undergone, and this may be interpreted by firms as having to put up with more bureaucracy.

* Tenants' attitudes to contractors' men carrying out housing repairs may not be as favourable as to DLO operatives in areas where a relationship of trust has developed between tenants and council workmen.

* Contractors' operatives are unlikely to have so much local knowledge of tenants and this may affect the issue of access and abortive calls.

These factors imply a difficult situation for the private sector, but against this it has to be remembered that many authorities have for years been using contractors successfully, and the flexibility of the industry in being able to overcome the problems outlined should not be underrated. The point here is to alert those authorities which may find themselves employing contractors much more widely than hitherto of some of the difficulties that some firms may face; client departments may in the first instances have an educative role, particularly in relation to the smaller firms.

15 INCENTIVE SCHEMES

15.1 SCOPE OF THIS SECTION

The administration of bonus schemes for construction and maintenance has almost become an industry within an industry. It is a complicated area on which much effort and resources are expended. It is not the purpose of this report to describe or review the whole field of incentive schemes in detail but to consider some of the principles and important issues, drawing, where appropriate, on information from the sample of DLOs in the survey.

15.2 PURPOSE AND NATURE OF INCENTIVE SCHEMES

Bonus schemes began to be introduced fairly widely in local authorities about 20 years ago. Their main purposes are:

* To enable the DLO to carry out its work more productively
* To provide an incentive to operatives to work productively
* To enable productivity to be measured
* To provide a framework in which improved work methods can be developed and in which there can be better planning and control of labour, materials and transport.

However a number of schemes were introduced or revised at times when it was difficult to recruit good, qualified tradesmen to local authorities because the construction industry was buoyant and contractors, with their ability to pay above rates agreed nationally between local authority employers and the trades unions, were able to have the pick of the best employees. In these circumstances some bonus schemes were introduced less with the ostensible objectives in mind than with the aim of increasing operatives' pay levels generally so that DLOs could recruit men.

The early schemes were relatively simple management-targeted schemes but in the early 1970s work-study based schemes began to be introduced more widely with a view to greater accuracy of control. The desirable feature of simplicity has been sacrificed as schemes have been developed further and efforts made to close the loopholes which tend to be exploited by the workforce once the men have become thoroughly familiar with the details of a scheme.

Two recent developments are likely to have a considerable impact on bonus schemes. It has been fairly widely recognised that some schemes were open to abuse and manipulation, and one or two cases had received a good deal of publicity. In some measure as a result of this adverse comment and partly because officers have been becoming more concerned with obtaining value for money from bonus schemes, perhaps through the increasingly vigilant attitude of ratepayers and auditors, it was agreed in 1980 by the Joint Negotiating Committee for Local Authorities Services (building and civil engineering) (known as the JNC) that all bonus schemes had to be reviewed by their local authority and certified by the JNC before the newly agreed bonus calculator was to be applied.

The new JNC requirement is causing most DLOs, with their management services units, to mount a thorough examination of their bonus schemes. DLO managers are going into the reviews with "shopping lists" of improvements that they wish to have introduced before the revised bonus calculator is implemented, for example, simplification of Part II specifications, elimination of duplicate values, elimination of lost time from the bonus calculation, revision of allowances, alterations to working practices (eg. relating to tradesmen working alone rather than with mates).

The other major influence is the DLO legislation. The need for DLOs to be viable is causing them to examine their methods of planning and carrying out the work and this is certain to impinge on bonus schemes (see Sections 15.12.2 and 15.12.3).

15.3 TRADES COVERED BY BONUS SCHEMES

It is normal for the majority of operatives in a DLO to be working to a bonus scheme, but there are often exceptions, usually on a purely local basis. For example, in one DLO the scaffolders no longer have a bonus scheme; they worked with a work-study based scheme for about a year and then it was abandoned in favour of a standing bonus of about £11 for a 40 hour week (reduced pro rata for shorter hours and wet time). In another DLO the hot water fitters do not have a bonus scheme because it is felt that repair work is so variable, because of the high content of fault tracing, that standard times cannot be applied. In a third DLO the electricians are outside the normal incentive arrangements largely as a result of historical circumstances; a selective strike occurred in local authorities at the time a scheme was about to be implemented and the electricians were offered a standing bonus in lieu and so they lost interest in the incentive scheme.

15.4 INDIVIDUAL AND GROUP SCHEMES

Incentive schemes achieve the greatest impact when they are on an individual basis and each operative's earnings depend only on his own efforts. It is not usually possible to pay individual bonus on capital works, but most maintenance work should be subject to individual bonus, or perhaps bonus based on the performance of a pair, when a tradesman and mate work together. Nonetheless a number of maintenance DLOs operate group schemes. This may partly result from historical circumstances when capital works divisions were the pace-setters in established DLO administration arrangements, but it may also have resulted from union pressures during negotiations; many union officials take the view that collective bonus ensures a fair distribution of bonus earnings.

The disadvantages of group schemes are that:

* Output tends to be depressed to the lowest level in the group

* Flexibility of deployment is more difficult because men are resistant to the possible adverse effects on bonus earnings if the composition of the group is changed

* The incentive effect of the bonus scheme is much diminished

The advantages are that:

- Team spirit may be engendered (but this is less likely if operatives are not actually working together, as is generally the case with maintenance)
- Work allocation is easier for supervisors because arguments over the allocation of the best bonus earning jobs are less likely
- The problem of older workers, who cannot work fast and who are in effect penalised by an individual scheme, is overcome.

Certain types of maintenance and repair work are amenable to bonus only on a gang basis, for example painting and some improvement work, but apart from exceptions of this nature DLO managers should try to ensure that the majority of maintenance work is assessed on an individual basis for bonus.

15.5 CONTROL OF BONUS SCHEMES

One of the main purposes of incentive schemes is to assist supervisors to plan and control the work. It follows therefore that the scheme itself must be controlled properly. DLO supervisors and managers sometimes claim that the bonus scheme is unsatisfactory, but it may well be that the scheme itself is adequate and their control of it is not. The following points could usefully be borne in mind by supervisors and management:

- The pay of supervisors should not be influenced by the bonus performance of the men they supervise (this issue is discussed in Section 4.5.2)
- Foremen and managers should have a thorough understanding of the scheme and its possible abuses.
- Foremen or bonus surveyors should ensure that they post-inspect sufficient jobs to verify a sample of claims by operatives, and these jobs should be recorded
- All managers and foremen should take a keen interest in the weekly control reports; they should be trained to interpret the trends
- Foremen should not be allowed to imagine that the bonus scheme takes away any of their proper control and supervisory responsibilities
- DLO managers at all levels (and council members) should be prepared to back up foremen who take justifiable disciplinary action resulting from abuse of the bonus scheme
- Foremen should ensure that time sheets and other bonus records are adequately completed and checked by themselves
- Foremen should plan the work properly so that the most productive use is made of labour resources and the men are given a proper opportunity to earn a reasonable bonus.

The management information necessary to assist in the control of schemes is discussed in Section 15.2.8. The operation of bonus schemes should also be monitored by management services staff, with the schemes being properly maintained. The management services staff therefore need to be readily accessible to the DLO in order to resolve problems and deal with items not in the work specifications.

15.6 DIFFERENCES BETWEEN SCHEMES IN THE SAMPLE

15.6.1 Main factors

Although most authorities use the guiding principles of the JNC agreement as a framework for their incentive schemes, the schemes nonetheless vary in points of detail and some authorities depart from them in one or two significant respects. The main characteristics by which schemes can vary include the following:

- Whether individual or group-based (see Section 15.4)
- Whether a work-study based or management-targeted scheme
- Whether pre- or post-targeted
- Maximum bonus and performance at which it can be earned
- Minimum performance at which bonus becomes payable
- Method of calculation of bonus
- Graphical relationship between performance and bonus, and gearing generally
- Payment for unmeasured work
- Payment for lost time
- Level of detail in work specification
- Whether foremens' pay is related to operatives' performance (see Section 4.5.2)

15.6.2 Basis of targeting

Most DLOs in the sample use work-study based schemes. Two trades for which management-targeted, time-saved schemes were found in the survey were the joinery mill operatives and plasterers, both in a works department DLO. Some authorities are now moving away from detailed work measurement schemes to those where targets are related to tasks or tasks are slotted into bands of different duration; the aim in each case is to simplify the scheme. However, the latter is not so satisfactory; banding of tasks does not save much measurement and the effort that goes into the banding exercise might be more profitably used in producing better averages for specific tasks or in building up global times for complete jobs. One of the problems with applying work-study to maintenance is the averaging process which leads to the targets, because of the inherent variability of such maintenance work. It is interesting that the recent developments towards banding or complete tasks is in some respects a return to the philosophy behind the time-saved schemes, in which the foreman assesses the target for a complete job. However, this should not be taken as a denigration of the objectivity, and indeed the effort, that goes into work-study for maintenance bonus schemes. The aim should be to use the work-study techniques to achieve simple and reliably based targets for units of work which are as near as possible to complete jobs.

The question of pre- or post - targeting is important in relation to the control of a scheme; it is discussed fully in 'Audit of incentive bonus schemes' (Bibliography reference 19). Pre-targeted schemes are preferable because the operative is instructed what work to do and told the targets in advance. His own discretion (and hence ability to influence targets and make exaggerated claims) is then limited to extra work, for which authorisation should be sought in normal circumstances. However pre-targeted schemes should be designed so that evaluation of targets does not call for an excessive amount of pre-inspection, otherwise administration becomes unduly costly. Wherever possible pre-inspection for targeting should be confined to those jobs for which an inspection is necessary for other reasons, for example, measuring up or arranging access. It is sometimes easy for a pre-targeted scheme to slip into a post-targeted scheme if control becomes lax because, for example, the number of jobs regarded as emergencies becomes an unduly high proportion of all jobs; this is a situation to be guarded against.

15.6.3 Cut-off points

The performance indices and bonus percentages for schemes used by DLOs in the survey are shown in Table 15.1. The lowest performance (BSI scale) at which bonus is earned varies between 50 for a scheme inherited from a pre-1974 authority and a norm of 75. The performance for bonus cut-off ranges between 112.5 and 167; maximum bonus varies between 37 percent and 66.7 percent.

15.6.4 Calculation of bonus

Table 15.2 indicates different methods of calculating bonus and illustrates how confusion can arise in the discussion of comparisons between schemes unless care is taken in the use of terminology. The essential differences are as follows:

* Methods A and B measure performance as a ratio of standard minutes produced, (including allowances) to hours spent on measured work

* Methods C and D measure pay performance as a ratio of work produced plus lost and unmeasured hours to clock hours

* Method A has bonus tables to relate performance to an hourly bonus rate in pence per hour

* Method B has bonus tables to relate performance to a bonus percentage applied to hours on measured work at bonus calculator rate

* Methods C and D have bonus tables to relate pay performance to a bonus percentage applied to clock hours at bonus calculator rate.

Table 15.1 Incentive scheme performance indices and bonus percentages

Authority	Basic performance eligible for bonus	Standard performance	Bonus payable at standard performance (%)	Maximum performance eligible for bonus	Bonus payable at maximum performance (%)
L B	75	100	33.3	125	66.7
M B	45(75)	60(100)	33.3	67.5(112.5)	50.0
DC: current scheme	60	100	33.3	150	50.0
New scheme under negotiation	75	100	33.3	150	45.0
D C	40(67)	60(100)	33.3	80(133)	66.7
M B	75	100		162.5	
D C (Note 2)	45(75)	60(100)		90(150)	

Notes (1) Where performances are shown in terms of standard minutes per hour the equivalent based on standard performance at a rating of 100 BSI is shown in brackets.

(2) Enhanced bonus payable to employees with more than five years service.

Table 15.2 Methods of calculating bonus

Method A: (1) Performance = $\frac{\text{standard minutes produced}}{\text{clock hours} - (\text{lost} + \text{unmeasured hours})}$

(2) Table relates performance (credits per hour) to hourly bonus rate

(3) Bonus = hourly bonus rate x hours on measured work

Method B: (1) Performance = $\frac{\text{standard minutes produced}}{\text{clock hours} - (\text{lost} + \text{unmeasured hours})}$

(2) Table relates performance to bonus percentage

(3) Bonus hours = hours on measured work x bonus percentage

(4) Bonus = bonus hours x bonus calculator rate

Method C: (1) Pay performance = $\frac{\text{SMs produced} + (\text{lost} + \text{unmeasured hrs}) \text{x} 75\%}{\text{clock hours}}$

(2) Table relates pay performance to bonus percentage

(3) Bonus hours = clock hours x bonus percentage

(4) Bonus = bonus hours x bonus calculator rate

Method D (1) Pay performance = $\frac{\text{allowed hours} + (\text{lost} + \text{unmeasured hours})}{\text{clock hours}}$

(2) Table relates ranges of pay performance to bonus percentage steps

(3) Bonus = bonus percentage x clock hours x bonus calculator rate

The control of a bonus scheme probably has as much effect on the bonus paid as the method of calculation, but the following points may be noted:

- The subtraction of lost and unmeasured hours from clock hours in the denominator of the performance calculation (in methods A and B) gives operatives a motive to inflate their reports of lost time and unmeasured work in order to increase performance and hence bonus. (However there will be a 'breakeven' point beyond which further reduction of hours on measured work becomes counterproductive in bonus terms).
- The use of tables to relate performance to an hourly bonus rate (method A) means that the tables have to be recalculated when the bonus calculator changes, whereas tables which relate performance to a bonus percentage applied to clock hours and bonus calculator rate (methods C and D) are constant unless the relationship is changed

Table 15.3 summarises the methods found in the sample DLOs of dealing with lost time and unmeasured work. Lost time is generally paid at bonus calculator rate. The first six hours of unmeasured work is usually paid at the bonus calculator rate, in accordance with the guiding principles prevailing prior to 1980 and under which most of the schemes were operating.

Table 15.3 Methods of dealing with lost time and unmeasured work

Authority	Lost time	Unmeasured work
L B	Credited as SMs at 75 performance (see Table 15.2, method C)	First six hours credited as SMs at 75 performance. Subsequent hours subject to bonus at average of previous four weeks
M B	Paid at bonus calculator rate	Paid at basic rate except for certain items for which average bonus may be payable
D C	Paid at bonus calculator rate	First six hours paid at basic rate. Subsequent hours subject to bonus at average of previous two weeks
D C	Paid at bonus calculator rate	First six hours subject to bonus at average performance
D C	Paid at bonus calculator rate	First six hours paid at basic rate. Subsequent hours subject to bonus at average of previous two weeks
L B	Included in bonus calculation. (See Table 15.2, method D)	Clock hours credited at current performance level if notification procedure followed properly. Otherwise first six hours paid at bonus calculator rate and subsequent hours at current performance level.

15.6.5 Work specifications

The work specification is the heart of a bonus scheme and on its clarity and simplicity in use much will depend. Some of the work specifications in use by the sample DLOs were briefly analysed in the study. The results for joiners' specifications in four schemes are shown in Tables 15.4 and 15.5.

The number of individual work values varies from about 200 to about 800, (as shown in Table 15.4). The number obviously reflects the variety of buildings being maintained but it does also indicate the level of detail of the specification and the way in which it caters for a variety of operations. The most detailed specification, scheme D, contains many items which do not occur in other specifications, for example a section on shuttering (related to improvement work), as well as other maintenance items. This specification also mentions the removal of some items "for re-use", in line with this DLO's policy on re-use of materials (see Section 13.1.8). A very detailed specification has the advantage that most operations are likely to be included and the incidence of unmeasured work should be low, but it may be cumbersome to use in practice and take more time for operatives to enter codes on the job cards or time sheets. A specification with relatively few items is likely to lead to coding queries where a situation is not exactly described and hence to administration and supervision problems.

Table 15.4 also indicates the percentage of items falling within particular work categories where these could be readily defined for comparison. The largest categories contain operations relating to doors (of all types), comprising between 24 percent and 32 percent of all items. Operations on windows comprise the second largest category, between 12 percent and 21 percent of all items.

Table 15.5 shows how units of measurement and standard minute values for typical operations can vary from scheme to scheme. Where units are different it is not possible to make direct comparisons between schemes simply by comparing standard minute values. But even where it is possible, any comparison should be treated with some caution because building details and configurations may have a local influence on particular values, and some values may include different allowances from others, eg. a proportion to cover the daily allowance. Such factors would certainly be adduced in defence of a scheme if the criticism of looseness of values were levelled at it. It is therefore difficult to obtain more than a general impression of the looseness or tightness of work values; (although scheme D would seem, on the basis of the few operations listed in Table 15.5, to be tighter than the others). However this is not to say that bonus schemes cannot be compared; when comparisons of work values are not applicable the proper method would be to use standard models for different jobs and evaluate the bonus schemes by comparing the results when they are applied to the models.

Table 15.4 Joiners' bonus schemes: number of work values by work area

Work area	Scheme A No.	Scheme A %	Scheme B No.	Scheme B %	Scheme C No.	Scheme C %	Scheme D No.	Scheme D %
Floors, steps, stairs	8	4	30	9	31	6	60	7
Doors, panels, hinges	32	15	46	13	50	9	71	9
Door furniture	35	17	42	12	50	9	73	9
Combination door frames	0	0	1	0	0	0	26	3
Garage doors	1	0	0	0	51	9	21	3
Windows (wood & metal)	38	18	105	30	117	21	101	12
Glazing	6	3	0	0	4	1	29	3
Walls, ceilings, studwork, fixtures	16	8	0	0	13	2	67	8
Roofs, fascias, soffits, eaves, gutters	6	3	31	9	18	3	65	8
Fencing, gates, outhouses	34	16	38	11	64	12	43	5
Draining boards, sink units, bath panels, tank frameworks	1	0	8	2	32	6	26	3
Cupboards, shelving, fittings	14	7	10	3	19	3	50	6
Porches, canopies	0	0	12	3	26	5	1	0
Other categories, miscellaneous	19	9	29	8	75	14	202	24
Total work values	210	100	352	100	541	100	835	100

Table 15.5 Joiners' work specifications: units of measurement and standard minute values for typical maintenance operations

	Scheme A		Scheme B		Scheme C		Scheme D	
	Unit	SMV	Unit	SMV	Unit	SMV	Unit	SMV
Take up floorboards	10sqft	27	8 bands of lin m per room		sq ft	1.3	sq m	7.5
Lay new floorboards:								
large area)	10sqft	39)	8 bands of)		sq ft	2.9	sq m	27
small area)		)	lin m per) room)				lin m	9
Pack up joists	No item		joist	4	no item		packing location	4
Take off/rehang (external	door	16	door	25	job	8	door	17
door for repair(internal	door	15	door	18	job	8	door	13
Renew tongued and grooved boards to door	no item		board	28	no item		board	13
Ease door (without removal)	door	16	occurrence	5	door	10	door	4
Refix or renew waterbar in wood cill	no item		no item		job	10	strip	4
Renew T hinge	butt	10	hinge	11	2 butts 3 butts	18 23	hinge	10
Fit new letter plate to existing door	letter box	13	door	33	plate	35	letter plate	6
Replace letter plate spring	no item		no item		spring	10	letter plate	7
Renew mortice lock	lock	22	lock	18	lock	30	lock	12
Reposition or replace mortice lock keep	keep	20	keep	8	keep	5	no item	
Renew two hinges to side-hung casement	casement	21	casement	34	no item		casement, hinges as separate items	44
Replace window stay	stay	5	stay	8	screw	1	stay	5
Ease sash window (inc. removal of sash)	sash	20	occurrence	69	window	30	sash casement	11
Renew sash cords	cord	20	set	112	2 cords 4 cords 4 cords large window	35 60 100	sash casement up to 3m high sash casement over 3m high	30 101

Note: SMVs for scheme A include contingency and rest allowances. SMVs for schemes B, C and D include contingency, rest and occasional element allowances.

15.7 INSPECTION

Issues relating to pre-inspection and post-inspection generally are discussed in Sections 7 and 11. Four of the ten DLOs in the sample use pre-inspection for bonus targeting purposes (see Section 7, Table 7.1). In one of these cases the job assessors are not part of the DLO but are in one of the client departments (Housing); in two cases pre-inspection for bonus targeting applies only to some trades. In two DLOs which appear to be comparable in this respect, the number of productive operatives per bonus assessor are 8.2 and 18.4. However, not all jobs are pre-inspected for targeting in these DLOs and therefore bonus targets are based on the mens' records checked in some cases afterwards by the supervisors making post-inspections.

If a bonus scheme is well designed and jobs are adequately described on works orders there would seem to be little point in pre-inspection for bonus targeting in most cases (although it may be necessary for other reasons). The foreman or job-assessor should record the relevant job operations on job cards (unless the order is in the form of schedule items based on bonus scheme work specification descriptions). For genuine emergency jobs, when there may be no time for pre-evaluation, the operatives can enter the relevant job operations on the job cards or time sheets and spot post-inspections can then provide a check on the mens' recording.

It is not easy to make reliable comparisons of operatives per inspector for different DLOs because of the different ways in which they work, but it would be worth pursuing the reasons for marked variations between authorities. A high ratio of inspectors to men might be symptomatic of a bonus scheme that is complicated and difficult to administer. A low ratio could give contradictory indications: either the bonus scheme is well designed and needs only few inspectors, or only a token force of inspectors is maintained because the scheme is too difficult. Table 4.5 in Section 4.5.4 indicates typical supervision ratios (but excludes inspectors whose role is solely job assessment).

15.8 MANAGEMENT INFORMATION

15.8.1 Levels and categories of control information

Because of their quantitative nature and apparent objectivity (it should always be borne in mind that the work values result from an averaging process and cannot in any sense be regarded as absolute), bonus schemes invite the production of a large amount of control information. This is to be welcomed provided that:

- The information can be properly used
- It is produced at an appropriate level of detail for its different users
- It is edited into suitable formats for users at different levels

It is suggested that information be provided to the following categories of user:

- Operatives
- First line supervisors and depot superintendents
- Senior DLO management (and managers in the parent department)
- Management services staff
- Auditors (internal and external)
- Council members

The information may be provided weekly, monthly and cumulatively on the following bases:

- Per operative
- Per gang)
)
- Per depot) including permutations of these
)
- Per trade)
- For the DLO as a whole

Table 15.6 lists the parameters and control indices relevant to the management of a bonus scheme, together with the basis of calculation and suggestions (indicated by X in the matrix cells) of the details that may be produced relating to various groupings in the DLO. There may be local variations in the basis of calculation of some indices, for example whether lost time is taken as a percentage of attendance hours or total available hours, but the important point is that there should be an ability to monitor trends or sudden changes in particular indices.

Table 15.6 Bonus control information

	Basis of calculation	Operative	DEPOT		DLO	
			Gang or trade	All trades	Trade	All trades
		A	B	C	D	E
CLOCK HOURS						
1 Attendance		X	X	X	X	X
2 Sick		X	X	X	X	X
3 Holiday		X	X	X	X	X
4 Absent		X	X	X	X	X
5 Total available	1+2+3+4	X	X	X	X	X
6 Overtime		X	X	X	X	X
7 Hours on bonus		X	X	X	X	X
ALLOWED PRODUCTIVE HOURS						
8 Productive standard hours		X	X	X	X	X
9 Unmeasured hours		X	X	X	X	X
10 Travelling		X	X	X		X
11 Abortive calls		X	X	X		X
12 Other allowances		X	X	X		X
13 Total credits	8+9+10+11+12	X	X	X	X	X
ALLOWED NON-PRODUCTIVE HOURS						
14 Weather		X	X			X
15 Waiting for materials		X	X			X
16 Waiting for work		X	X			X
17 Other (pay, union etc.)		X	X			X
18 Total lost time	14+15+16+17	X	X	X	X	X
PERFORMANCE						
19 Effective performance	8 ÷ 1	X	X	X	X	X
20 Pay performance	13 ÷ 7	X	X	X	X	X
PAY DETAILS						
21 Basic wages		X			X	X
22 Bonus earned		X	X	X	X	X
23 Reduction (consolidated bonus)		X			X	X
24 Bonus paid	22 - 23	X			X	X
25 Other payments, eg London allowance supervisory allowance		X			X	X
26 Total wages	21 + 24 +25	X			X	X
OTHER DATA AND CONTROL INDICES						
27 Number of men			X	X	X	X
28 Number of jobs completed			X X	X X	X X	X X
29 Number of jobs per man	28 ÷ 27		X	X	X	X
30 Cost per productive standard hour	26 ÷ 8		X	X	X	X
31 Bonus as % of basic wages	22 ÷ 21				X	X
32 Lost time as %	18 ÷ 1		X	X	X	X
33 Unmeasured work as %	9 ÷ 13		X	X	X	X
34 Travelling time as %	10 ÷ 13			X		X

15.8.2 Information for operatives

Operatives are likely to be concerned mainly with details relating to themselves, though in some cases they may be interested in the performance of their gang. The information that should be provided to them from column A of Table 15.6 is:

- Attendance hours
- Overtime
- Hours on bonus
- Total credits
- Total lost time
- Pay performance
- All details relating to wages and bonus

15.8.3 Information for gang and trade foremen

In many cases foremen are swamped with information that they cannot digest or use properly. There should be no need to provide them with details of hours because they should have seen all they need while checking the time sheets and job cards of their men. In that way they should be able to note the incidence of exceptional lost time, unmeasured work, or travelling by individual operatives. It is suggested therefore that their bonus control information should be geared to showing them whether their gang is on course; ie. it should comprise, on a weekly and cumulative basis from column B:

- Total productive standard hours
- Total lost time
- Effective performance
- Number of jobs completed per man
- Cost per productive standard hour
- Lost time as a percentage (analysed by category if the percentage exceeds, say, 5 percent)
- Unmeasured work as a percentage
- Travelling time as a percentage

The foremen should be trained in the interpretation of this information and they should be given a notional budget or norm against which each item can be compared. In addition each foreman should be given details of the pay performance of each operative in his gang.

15.8.4 Information for depot superintendents

The depot superintendent should be encouraged to manage his depot as a cost centre in the same way as the foremen should regard their gangs. He requires therefore the information above in Section 15.8.3 on an all-trades basis for his depot, as well as the same details for the gangs. This will enable him to monitor the performance of the depot as a whole and the individual trades and gangs. The gang performance figures should be used in his reviews with the foremen.

15.8.5 Information for DLO management

It is less easy to be specific about managers' information requirements because this will vary according to their level in the organisation, and certain information may be needed at specific times but not necessarily on a regular basis. However it would seem essential for senior managers to monitor all the items listed in Table 15.6 under 'performance' and 'other data and control indices', weekly and cumulatively against a norm or budget, for each depot (all trades), each trade (all depots) and the DLO (all trades). If there are sudden changes or a gradual worsening of trends, further analyses of the relevant items should be requested, to identify where the change is taking place and its cause. However, as with the other recipients of control information, it is important that the volume should not be excessive to the extent that it is not used.

15.8.6 Information for management services staff and auditors

The management services or work study section should be monitoring the bonus scheme and therefore it ought to receive all documentation that is produced and the full detail of all items indicated with a X in Table 15.6 for reference and ad-hoc analysis if necessary. Auditors should have the ability to access any of this information, if needed.

15.8.7 Information for council members

Bonus schemes have been in the limelight on occasions in recent years and it is in any case appropriate that members of the committee responsible for the DLO should receive a few basic details on the operation of the bonus scheme. It is suggested that at each committee cycle they should receive cumulative information to the latest complete month, against norm or budget, as follows:

- Number of men
- Number of jobs completed) relevant only for housing -
- Number of jobs per man) large numbers of small jobs
- Cost per productive standard hour
- Bonus as a percentage of basic wages.

It should be noted that DLOs in a trading situation may be put at a commercial disadvantage by the publication of certain information, and the dissemination of such data must therefore be strictly controlled.

15.9 COST OF ADMINISTERING BONUS SCHEMES

There are seven main areas of cost related to bonus schemes, apart from the bonus payments; these are:

- Operatives' time spent completing bonus sheets (included in the daily allowances or within the standard minute values)

- Time spent by job assessors or foremen in pre- and post-inspection for bonus purposes

- Staff time and computer facilities used in processing bonus sheets and making calculations

- Management services staff who maintain and monitor the bonus schemes

- Clerical time spent in editing raw control information into forms suitable for different users

- The time spent by supervisors and managers in absorbing and using the control information

- The time spent by internal auditors in checking and monitoring bonus schemes.

The totality of these costs is not generally available to local authorities but part of the monitoring of bonus schemes should include occasional reviews to ensure that the costs are not excessive in relation to the bonus paid and the productivity benefits of the scheme. Some authorities identify part of the cost of bonus administration as an item in their DLO overheads (see Section 14.4.2, Table 14.3), but comparisons are not necessarily appropriate because different elements of cost may be included. Nonetheless in the two cases in the study where figures were available for bonus administration staff, they were surprisingly close at £136.7 and £138.5 per operative per annum (budget for 1981/82).

Bonus calculations absorb a good deal of repetitive clerical effort and in some authorities much of the work continues to be carried out manually. By its nature the work is very suitable for a computer, both for calculation of individual operatives' bonuses and for analysing and sorting the control information, especially if allied to a computer system for the production of job cards which itself is based on a schedule of rates allied to the bonus specification. A DLO seeking to reduce its overheads would be well advised to consider the feasibility of converting a manual bonus system to computer operation, taking full account of the personnel management consequences and costs.

15.10 PROBLEM AREAS

15.10.1 Demarcation

The general issue of multitrade working is discussed in Section 3.4.2 and the point is made that more multitrade working is desirable. Demarcations can vary between DLOs; for example glass in metal windows may be repaired by carpenters, glaziers, plumbers or labourers. Trade demarcations are usually reflected in bonus schemes which thereby contribute to rigidity in this respect, unless special provision is made to ensure that a tradesman can use the work specification of another trade when it is appropriate to do so. For example, a plumber may make use of joiners' operations in gaining access to and making good around ducted pipework.

In some cases when new work values have been developed on separate occasions for jobs which may be carried out by more than one trade, the result has been different values for virtually the same operation, for example the working of plasterboard by carpenters or trowel trades. Any review of bonus schemes should attempt to ensure that such anomalies are eliminated.

15.10.2 Reconciliation of clock hours and returned hours

In some authorities where bonus operations and times are entered on job cards and clock hours on time sheets there are gaps in the checking process because there is no reconciliation between clock hours and returned hours. If operatives hold back job cards for completed jobs and submit them later, they may be able artificially to enhance their bonus earnings. It is primarily the task of foremen to check whether this is the case, but the timesheet processing system should have some inbuilt way of ensuring that a proper reconciliation is made. Completion of timesheets daily rather than weekly can assist with this but it does multiply the paperwork; the cost and inconvenience needs to be weighed against the chances of undetected abuse.

15.10.3 Unmeasured work and lost time

A high proportion of unmeasured work indicates a slack bonus scheme because operatives are being paid bonus for work for which there are no standard values against which performance can be assessed. However, the apparent absence of unmeasured work does not necessarily mean that all is well; if operations in the specification are few in number or too loosely defined, the same situation may prevail. Unmeasured work may be symptomatic of either a poor scheme or poor control of an adequate scheme, eg operatives taking advantage of slack supervision to enter more unmeasured work than is justified. A reasonable objective for good management operating an adequate bonus scheme would be to keep unmeasured work below five percent.

Lost time represents totally unproductive time. Unless it is for reasons of weather, it generally derives from poor management and inefficient organisation of the work. The number of occasions when men are waiting for work, for instructions or for materials should be minimal, although there will always be a few occasions when these delaying factors occur. Lost time for other reasons such as collecting pay, meetings, training apprentices or shop stewards engaged on union activities is an unavoidable necessity. A reasonable upper limit as a target within which lost time should be contained is about five percent. Where a reasonable average rate can be determined, there is a clear advantage in grossing up standard minute values accordingly and thereafter no time at all need be counted as 'lost'. This gives the operatives an incentive to cut down lost time and also simplifies administration of the bonus scheme.

15.10.4 Jobs undertaken by more than one operative

Generally the true values in work specifications are the standard times for one man to carry out the operation. However, it is often the case in practice that more than one man is assigned to the job, eg two tradesmen, or a tradesman and labourer, either because the task requires it or because an imbalance in the workforce, possibly temporary, means that a labourer has to be sent out on the job rather than remain without a task at the depot. The question then arises as to how the standard time is used in relation to the calculation of bonus. In the loosest of schemes the labourer would be given the same credit as the tradesman; thus a job that should really be, say, one standard hour appears in the output records as two standard hours and group bonus is calculated accordingly. A crude alternative is simply to divide the standard time equally between the men. In this way the output is not overstated but the rewards may be inequitably distributed. Another method, encountered in the sample, is for a proportion of the labourer's time (80 percent in the case of a labourer working with a bricklayer, and 30 percent in the case of a labourer working with a plumber or joiner) to be added to the tradesman's time spent on measured work for the calculation of bonus for the pair; this does not affect the record of output but does allow for different relative contributions of labourers to different trades. It is clear that there is no uniformity in the treatment of labourers' time but the issue is one which can have a major influence on the bonus payable and in some cases the apparent amount of productive work.

15.10.5 Gearing

Many local authority bonus schemes are straight-line proportional on a 75-100-125 basis, but some are geared down to 50-100-150, maximum bonus being 66.67 percent in both cases. Whereas for the straight line proportional scale, performance index has little effect on the cost per productive standard hour within the range for which bonus is payable, this is not the case for the geared down scheme, as Appendix 7 demonstrates. Although there are savings in cost per productive standard hour at high performances, the penalties at low performances are very marked. In addition a proportion of the incentive effect is discarded when a scheme is geared down, and gearing introduces another complication to a bonus scheme.

It can also be demonstrated that cost per productive standard hour is adversely affected at low performances if the bonus calculator rate is significantly lower that the basic rate of pay.

15.11 MONITORING AND COMPARISON OF BONUS SCHEMES

As the previous sections indicate, bonus schemes are many and varied but there is no readily available reference framework for assessing their worth and effectiveness. In the longer term the adoption by DLOs of incentive scheme-based schedules of rates may assist, because the comparative costs of operations would be readily apparent. Conceptually, schemes may be judged by four criteria but in practice the indicators used would in many cases apply to more than one of the criteria, which are:

- The design of the scheme itself
- The effectiveness with which it is controlled
- The productivity benefits of the scheme
- The success with which the DLO, using the scheme can meet competition.

Many of the indicators are apparent from the previous sections but for convenience they are collected together in Table 15.7 and are related to design and/or control as a rough pointer to responsibility.

Table 15.7 Indicators for assessment of bonus schemes

Indicator	Design factor	Control factor
Work study-based or time saved	X	
Pre-targeted or post-targeted	X	X
Individual or group scheme	X	
Participation of supervisors	X	
Number of work values	X	
Number of temporary targets	X	X
Level of detail of operations	X	
Whole job operations/banding	X	
Consistency of work values for similar operations by separate trades	X	X
Extent of use by trades of each other's work specifications		X
Relationship between bonus and performance, gearing, cut-off	X	
Bonus calculations for jobs involving more than one man	X	X
Control information provided	X	X
Use made of control information		X
Reconciliation of clock and returned hours		X
Extent of overclaims		X
Number of errors and queries	X	X
Percentage of jobs pre-inspected	X	X
Percentage of jobs post-inspected	X	X
Bonus as % of basic wages		X
Unmeasured work: percentage	X	X
Unmeasured work: method of payment	X	
Lost time: percentage		X
Lost time: method of payment	X	
Travelling time: percentage		X
Travelling time: method of payment	X	
Number of assessors/inspectors	X	X
Number of operatives per bonus clerk	X	X
Cost of administration	X	X

15.12 FUTURE DEVELOPMENTS

15.12.1 Target hours as a measure of workload

Maintenance budgets and DLO workloads are conventionally thought of in terms of expenditure, and this is obviously necessary for the revenue estimates of an authority. However, in many ways it would be more logical, and more satisfactory in manpower planning terms, to measure workload in terms of target hours, ie the number of productive standard hours work that is produced. These can then be converted into money terms, with the addition of materials and other directly charged costs, for estimating purposes. Thinking in these terms would encourage managers to focus attention on productivity in a way that they have not had to hitherto. It would become irrelevant whether a small number of men carried out the work at a high bonus, or a large number at low bonus rates; the workload in target hours would be the paramount factor. Monitoring workload achieved against workload budgets month by month (or week by week) would indicate to DLO managers whether they were heading for manpower problems later in the year. Similarly by assessing the target hour content of each job and controlling these against the estimates, with the addition of materials costs, a good proxy for maintenance costs can be obtained.

15.12.2 Market-orientated bonus schemes

The obligatory trading status of DLOs since the Act has encouraged discussion of so-called "tender-led" bonus schemes. These are used by some contractors and are perhaps more appropriate to capital work than maintenance but the concept is worth discussing in the maintenance context.

Under the present pricing arrangements the cost for a job is built up as follows (conceptually if not in practice): job cost equals materials cost plus basic labour cost plus bonus plus overheads. With the 'tender-led' approach the concept is: market rate for the job less materials less basic labour costs less overheads leaves a productivity surplus split between employee and employer as bonus and profit. In this case the bonus is squeezed by the need to keep within the market rate.

To have bonus targets dictated by market conditions in this way would be completely unacceptable to DLO workforces and also to most authorities as employers, and would also conflict with national agreements as currently framed. The basic defect of the concept is a confusion between the mechanics of tendering as distinct from estimating. Estimates of true cost (and hence bonus targets) should never be allowed to be influenced by market forces, whereas tenders (and hence prices) may be forced down or encouraged to rise according to the prevailing competitive situation. It follows that, provided the bonus targets on which a DLO's estimates for maintenance work are based reflect efficient working methods, and opportunities exist to adjust them when working methods change, then the targets themselves should be regarded as sacrosanct. The first priority for ensuring that it is possible to keep within market rates is to institute management methods which enable the individual operative to earn maximum bonus through productive work. In other words, work must be planned properly and materials organised so as not to cause delays to the operatives.

The next priority is for DLOs to examine their bonus schemes to establish that they also meet the demands of the new market-orientated situation. Terms of reference for such a study may be:-

- To review all work values to ensure they are realistic
- To review allowances to ensure that they are not a cover for gaining credits without adequate justification
- To remove the need for an upper limit to bonus earnings
- To review supervisors' methods of planning work and controlling the bonus scheme.

If, after all the improvements to working methods and bonus schemes a DLO can make, it still finds itself unable to compete, it may well be forced to adopt the tender-led concept, but then should do so only for as long as market forces demand. It would not appear to be in the interests of any council to adopt tender-led bonus schemes in times when the construction industry is experiencing boom conditions, as by definition, the labour costs of its own DLO will tend to move with the market and will thus not represent the best value for money.

15.12.3 Simplification of bonus schemes

Over the years work-studied bonus schemes have become increasingly complex, and now that DLOs are having to look closely at their direct costs and overheads a strong case emerges for simplification wherever possible. The advantages are immediately apparent:

- Less pre- and/or post-inspection
- Less calculation and administration
- Less time taken up by foremen and operatives in resolving queries and problems

Many authorities feel they cannot escape from their present complex schemes because of the existence of national agreements and the guiding principles. It would be appropriate in future for DLO management to have a stronger voice in the negotiations on such matters. However the national arrangements do not prevent authorities taking their own initiatives. One authority in the sample has simplified its joiners' incentive scheme to the extent that bonus is calculated quarterly on a group basis and there are work values for only five jobs: emergencies, routine jobs, jobs on void dwellings, jobs on void garages and pre-painting repairs. This illustrates the extent to which simplification can be carried, once a local authority decides to move firmly in this direction.

16 CONTRACTORS

16.1 EXTENT OF USE OF CONTRACTORS

The reasons for using contractors and the policies on allocating work to them at the time of the survey were discussed in Section 8.3. The extent to which they were used varied markedly and did not necessarily bear any relation to the political complexion of the council. Table 16.1 gives details of the proportion of work carried out by contractors for the authorities in the study sample.

Table 16.1 : Contractors' work as a percentage of the budget in 1980/81 or 1981/82

Type of authority	Type of DLO	Percentage of work by contractors 1980/81	Percentage of work by contractors 1981/82	Type of contract relationship (Section 16.2)
LB	General property	-	18	Direct
LB	In-house	-	47	Parallel
MB	In-house	8	11	Direct
DC	General property	25	-	Direct
DC	Works department	-	22	Direct
MB	General property	-	65	Direct
DC	Works department	6	-	Sub contract
LB	General property	50	-	Direct
CC	General property	-	12	Direct

The different types of contractual relationship are discussed in Section 16.2.

16.2 CONTROL OF CONTRACTORS

Contractors should either be employed direct by the client department or be subcontractors to the DLO. Prior to the implementation of the Act the distinction was immaterial - they were contractors employed by the local authority - but when the DLO is regarded as a trading concern the distinction becomes important in terms of responsibility for their supervision. It is also important that DLO and contractors are treated equally in respect of instruction, specification and supervision of work when in a competitive situation.

16.2.1 Direct contractors

When contractors are employed directly, contracts are let by a technical services section in the client department which has an in-house DLO, or by the technical control unit in a works department. The work is supervised and post-inspected by the same sections, or sometimes by clerks of works from the architect's department. Checking of invoices is carried out by the section representing the client.

16.2.2 Subcontractors to DLO

When contractors are subcontractors to the DLO, all contract administration, including post-inspection and verification of invoices is by the DLO. It is a matter of debate whether the DLO should charge a percentage of the subcontractor's invoice for this service, as a main contractor normally would. Seen from the DLO's point of view, it would assist in recovering the overheads and would be seen as a legitimate charge for services. But seen from the point of view of the authority as a whole, an additional charge on subcontractors' work might not be acceptable if overheads were budgeted to be recovered fully through the productive work of DLO operatives. The extra money thus expended would reduce the client's funds available for productive maintenance work.

16.2.3 Contractors in parallel with DLO

In some authorities an unclear situation exists in which contractors and DLO are employed in parallel. They are neither subcontractors to the DLO, nor are they administered by officers independent of the DLO. In other words, DLO officers at depot level are responsible for allocating work to contractors and to their own workforces. Since implementation of the Act this has become an ambivalent position because the wearing of two hats at a level not far removed from the workface may expose these officers to undue pressures resulting from a conflict of interest, as was discussed in Section 4.1. This may be particularly crucial in relation to the certification of invoices; the officers will be certifying work which may be directly in competition with their own. There will be a temptation to be lenient in approving dayworks and time charges in order to make the DLO appear more efficient, quite apart from the other possible abuses of such an arrangement. It is therefore desirable that the position of contractors be made quite clear as either direct contractors supervised by officers independent of the DLO, or subcontractors responsible only to the DLO. An authority continuing a parallel working arrangement would probably justify it on the grounds of the cost of the additional staff required in order to change it.

16.3 MANAGEMENT INFORMATION

Because the study took place at about the time of the changeover to new procedures for the Act, it was not always possible to ascertain the amount spent or budgeted for contractors' work. Prior to the Act some authorities simply coded the cost of repairs, whether by DLO or contractor, to the relevant expenditure category and it would be possible to aggregate private contractors' work only by reference to individual orders. However under the new accounting framework it is necessary to isolate the two types of works in the accounts and hence the information will be available to management. The budgetary information required is similar for contractors responsible direct to a client or client's representative, and also subcontractors to the DLO, as follows:

* Annual and monthly budgets
* Commitments raised this month and cumulative to date
* Invoices received this month and cumulative to date (ie cancellation of commitments)
* Invoices paid this month and to date

For direct contractors, this information is needed for each maintenance category and housing management area of client department. For DLO subcontractors the classification is by specialist trade or whatever heads are most appropriate. The information is used as a regulator for budgetary control.

In order to enable the DLO supervisor responsible for contracts, or the technical control unit ordering contract work, to regulate expenditure on a day-to-day basis within the month and to make comparisons between estimated commitments and invoices (to ensure consistency in estimating commitments), it is helpful to use a "contractor's works orders control form"; this also reveals works orders outstanding over a long period. The form would include columns for information on each works order to be entered as follows:

* Order number and date
* Name of contractor
* Amount of commitment
* Cumulative total of commitments this month as each is entered into
* Amount of invoice and date received

16.4 CONTRACTORS' CHARGING METHODS FOR RESPONSIVE MAINTENANCE

There are three main methods by which contractors quote for responsive maintenance work:

* Schedule of rates based on an annual contract. The works order has to specify the relevant schedule items

* Lump sum quotation for an individual job. This is appropriate for repairs not amenable to scheduling

* Estimate based on dayworks rates which are tendered annually

The first two methods are preferable because they give a better opportunity for the price to be fixed in advance. However if the repair involves a substantial element of diagnostic work, the dayworks method may be fairer. Whichever method is used, the contractor should be required to separate the labour and materials elements of his price.

Sometimes a council's financial regulations stipulate that quotations must be invited on a rotating basis from a panel of contractors. Although this is obviously designed to limit the opportunity for too much reliance to be placed on a few contractors, with the risks inherent in close relationships, it may well mean that in some cases the price is not the cheapest obtainable for the job. A method of selection needs to be devised to make it possible for there to be an element of "horses for courses" as well as safeguarding the council's interests.

16.5 COMPARISON WITH DLO COSTS FOR RESPONSIVE MAINTENANCE

In the past it has not been easy to make direct comparisons between DLOs and contractors but the new accounting framework reduces the difficulties. There are a number of possibilities and many authorities will now be endeavouring to make such comparisons.

16.5.1 Schedule of rates

If the DLO uses a job-based schedule of rates for pricing its work (rather than a schedule related to bonus operations), the same schedule may be used to invite quotations from contractors and hence direct comparisons can be made. Unless there are significant differences across the full range of jobs, it is unlikely that a clear picture will emerge, but it may become apparent that the DLO is uneconomic for particular types of work. In this event the client department may be more selective in the work it allocates to the DLO, and the DLO should seek the reasons in cases where it is apparently uncompetitive.

No particular technical skills are needed to make this comparison, but where schedules are based on bonus operations it will be necessary to construct "whole job" models for a proper assessment to be made and this is a task which demands more technical skills and considerably more clerical effort.

16.5.2 Whole job sampling

This method of comparison relies on an ability to select jobs that have been carried out by DLO and contractor that are reasonably similar, and then simply comparing DLO charges with the contractors invoices. It is a clerical-intensive exercise that also requires technical skills of interpretation; it is also difficult to find jobs that are sufficiently similar in type and circumstance to make up a sufficiently large sample for statistical validity. It is suggested that 30 similar jobs of each type, carried out both by the DLO and contractors, would be necessary to enable valid comparisons to be made. If one is thinking in terms of several jobs for each trade, a measure of the magnitude of the exercise can be obtained. The resources for such a task are unlikely to be available in many authorities, although the March 1982 Competition Regulations may stimulate such comparisons.

16.5.3 Job analysis

This method requires the assessment of standard hours that the DLO would have needed to do jobs that have been carried out by contractors. The DLO's rate per standard hour (inclusive of overheads) is applied to these and the resulting prices compared with the labour element of the contractor's invoice. The method does not rely on finding exactly similar jobs by DLO and contractor, but again the sample needs to be sufficiently large to lend validity to the comparisons. It requires the technical skill of job assessment.

It may be noted that DLO job pricing systems that use standard prices for jobs assessed within various standard time bands (for example Leeds City Council's Lemmacc system; see the Accounting Code of Practice for DLOs, Appendix C Bibliography reference 5), provide almost automatically this type of comparison, particularly if jobs are assessed before the decision on allocation to DLO or contractor.

17 MANAGEMENT INFORMATION AND APPRAISAL OF DLO PERFORMANCE

17.1 OPERATING MANUALS

By its nature, the procurement of building maintenance in local authorities is a fairly complicated activity. Several parties are involved and considerable paperwork is generated by the ordering procedures, and the financial and other control information. In some authorities operating manuals and/or procedural flow charts exist to describe the procedures whereas in others there are no formal descriptions; people who operate the system are familiar with how it works, and that is regarded as sufficient. In other authorities some aspects of the system are described on paper but without any indication as to how they fit into the totality.

Where operating procedures are drawn up, it is important that they are clear and easy to use: there is no point in setting the system down on paper if the resulting product is never referred to. However, allowing for these reservations, the codification of procedures can have a number of useful purposes:

- It clarifies responsibilities in the event of misunderstandings
- It can be used for the training of new staff
- It can act as a reference point when changes to the system are being considered, for example, those occasioned by new legislation
- It can form a ready basis for review of the system and responsibilities if restructuring of the organisation is contemplated

If a major re-organisation is in prospect, then an operating manual is almost essential as the means of informing and reminding staff of their rôles under the new arrangements and also as a basis for devising a sensible and workable system in the first place; it is much easier to criticise and improve something that is described on paper rather than a set of perhaps insufficiently defined concepts in the mind. The urgency with which the DLO legislation had to be implemented caused a number of authorities to prepare operating procedures for the new working environment, and this is a step to be welcomed. Such procedures can also indicate the information that is available to management, so that as far as computer analysis is concerned, each manager may choose the information he will find most relevant and useful.

17.2 MANAGEMENT INFORMATION

The main task of DLO management is to effect the building maintenance requirements of the authority in a timely, efficient and cost-effective manner. The majority of management effort should be directed towards the human and operational aspects of getting the work done to the clients' satisfaction. The paperwork and information systems mainly exist to achieve this end (although public accountability is also one of their purposes) and should therefore always be seen in this context. It is up to management to ensure that the information system is used to aid efficiency and does not become an end in itself. This may seem a truism but the complaint is often encountered that a certain course cannot be followed because it does not fit in with the paperwork. There may be a good reason for this, but if not, then the paperwork should be altered to suit the most effective operational methods.

A corollary of this is that DLO managers should be in a position to decide on the management information that is appropriate and necessary to help them manage effectively. They should initiate requests for the information rather than leave it to the accountants and management services staff to decide for them. However, it is also important to recognise the technical expertise of these officers in their fields and to be prepared to be guided by their opinions, and their knowledge of the costs of producing various types of information, when deciding upon the detailed form of the management information needs of the DLO.

In previous sections of this report various areas of DLO management information have been discussed in the context of the aspects of management to which they relate. The main areas are:

* Financial and cost information (section 14.5)
* Production information related to incentive schemes (section 15.8)
* Production information related to works orders and outstanding workload (section 6.6)
* Manpower information (section 4.6)
* Transport usage (section 12.1)
* Stores management information (section 13.1)
* Information on contractors (section 16.3)
* Details of the extent of inspection (sections 7 and 11)

One of the difficulties in appraising DLO performance is to relate the various areas of management information to one another in order to obtain a comprehensive and integrated picture. It is important to know not only that income and cost outturns bear a sensible relationship to each other and to budgets, but also that the value of output is in line with expectations. This issue is discussed fully in the CIPFA publication "Management accounting - an approach" by M Sharples (Bibliography reference 20). This described research into controls for DLO maintenance and suggested improved methods of controlling and monitoring performance. The book is now out of print and so a few of the main points are repeated here.

The research found that DLOs attempted to identify the quality of their results through three aspects of their accounting systems: unit costs, financial estimates and work-study-based comparisons between similar units within the workforce. However none seemed to contribute significantly to the operational management of the workforce, mainly because benchmarks for assessment, where they existed, were loosely drawn and did not take account of the particular circumstances in which they were used. Proposals for improvement involved a closer relationship between work-study and financial data using productive standard hours as a measure of output. The concepts of standard costing and flexible budgeting (revising the budget after work has been carried out to take account of a variation in output from that initially assumed, so that actual and budgeted costs can be compared on a common output base) were introduced so that money spent could be related to output, income and money available. The proposals also envisaged the setting up of cost centres within the DLO so that the performance of different sections and managers at various levels could be assessed.

Some DLOs have now moved a little further in this direction, in some cases as a result of the impetus created by the need to meet the new DLO legislation. The cost per productive standard hour is now a comparatively familiar concept and some DLO managers are beginning to consider the sub-division of their DLOs into cost centres, eg trade or depot groupings. It is to be hoped that the suggestions in this report will assist DLOs to progress further in the directions advocated by Sharples.

As a final note on management information, the point cannot be emphasised too strongly that the cost of producing it must be commensurate with its value to managers as an operational tool. Every extra piece of information produced adds to the DLO overheads both through the cost of its preparation and the time spent by managers in interpreting and using it. Management information should therefore be reviewed periodically to see whether any is redundant and could be eliminated without loss of efficiency.

17.3 ANNUAL REPORTS

17.3.1 Legislative requirements

The Local Government Planning and Land Act 1980 lays the duty on authorities to produce annual reports. These will deal with the accounting and performance aspects of DLOs. The government has not made any directions on accounting procedures, leaving it open to authorities to adapt their own to the requirements of the legislation, taking account of the advice in the CIPFA Accounting Code of Practice for DLOs.

However as far as the reporting of a DLO's financial performance is concerned, the government has set down its requirements in "The Local Government (Direct Labour Organisations) Annual Reports Directions 1982" (reproduced in DOE circular 6/82). Each authority has to provide the following information:

* Balance sheet
* Revenue account for each construction or maintenance category
* Statement of rate of return for each work category and for all categories in aggregate
* Total value of DLO work (functional and works contracts separately) for each category
* Value of work by contractors in each category
* Value of work by DLO not won in competition in each category and this amount as a percentage of DLO work
* Value of DLO work won in competition in each category and this amount as a percentage of DLO work
* Details of all jobs awarded to the DLO for which its tender was not the lowest, aggregate value of such jobs and this amount as a percentage of DLO work
* Percentage of the authority's work in each category carried out by the DLO.

7.3.2 Other information

The annual report exposes DLOs to public scrutiny in a way to which they have not been accustomed in the past, but because excerpts from the report are likely to be reproduced in the the local press, it also gives the DLO the opportunity to present itself to the public in a positive manner. It is suggested that the achievements of the DLO should be described in such a way as to give life to the financial figures and to provide further statistical information so that year-on-year progress can be made explicit, without unduly glossing over the problems the DLO may have had to face. The descriptive element of the report could help to emphasize the qualitative aspects of the DLO's service which cannot be so well brought out in the figures. The aims of the annual report should be:

* To present the required statutory information
* To show that the DLO is competitive within the social context in which it operates
* To indicate the service it provides to the public
* To show that the DLO is cost-effective and gives good value for money (two concepts that are difficult to illustrate in concrete terms but nonetheless worth attempting)

17.3.4 Examples of annual reports

Some authorities have already an established practice for the publication of annual reports or review. One London Borough in the sample, which has two building maintenance DLOs (in-house and general property), publishes an annual review in which the activities of the DLOs are mentioned, but the particular facts and figures relating to them are not separated from other aspects of the accounts. Another authority in the sample has for many years published a report on the activities of its works department DLOs undertaking capital and maintenance work on buildings. This report includes the following information, the document being in the form of a report from the chief officer to the works committee chairman and members:

- List of members of the committee and past chairmen back to the inception of the committee in 1935
- General introduction summarising activities and expenditure in the year and particular problems faced by the DLO
- Five-year series of figures indicating value of work carried out and number of employees
- Analysis of charges to committees and other authorities and by source (wages, materials, transport and plant, subcontractors, overheads)
- Tables illustrating numbers of planned maintenance jobs of different types for housing
- Descriptions of the work of each section, eg painting, joinery manufacturing, with some statistics and details of numbers of tradesmen and of particular schemes
- Numbers of employees in the superannuation scheme
- Details of pay and dates of increases since 1960 in money and index terms
- Details of stores issues, direct charges and stock held
- List of apprentice examination successes
- Improvements in safety and welfare facilities, numbers of reportable accidents by trade and type
- Income and expenditure accounts (management and overhead expenses, transport and plant, maintenance) and departmental balance sheet

This information was attractively presented as an A5 sized booklet with a few illustrations. It clearly represented a good deal of management effort in its production and offered a broad view of the department's activities.

17.3.5 Suggested content of annual reports

The "Code of Practice for the Publication of Annual Reports" (Bibliography reference 21) makes recommendations to authorities on annual reports covering all their activities and DLOs should ensure that they provide the necessary information on their activities for these. However it is suggested that each DLO should also produce supplementary information, either in order to produce its own report, as in the case of the works department DLO mentioned above, or in order to amplify the section of the authorities' report in which its accounts appear. The details which it may wish to consider including in addition to the statutory information could be:

- Summary of activities, functions fulfilled, changes met (legislative, organisational, and in the trading environment) and particular difficulties faced
- Numbers of houses, categorised by a few main types, and broad details of other public buildings maintained
- Analysis of repair and maintenance charges by client department and authority (categorised as normal responsive maintenance, out-of-hours emergency repairs, repair of void properties, planned maintenance, and adaptations and improvements), with numbers of orders completed in each category and average charge per order in each of the first three categories
- Brief details of major schemes of planned maintenance, improvements and adaptations
- Numbers of operatives and first-line supervisors by trade, and number of staff, at start and end of the year
- Details of depots (location and area served, number of operatives based at each)
- Numbers of vehicles and average mileage in each main category
- Value of stores issues and direct charges, and stock held at start and end of the year
- Analysis of wages by main category (basic, overtime, bonus)
- Analysis of overheads by broad category and value as percentage of gross wages
- Pay changes in the year for operatives and staff
- Training courses for operatives and staff, numbers of apprentices by trade, awards and successful completions in the year
- Safety and welfare improvements and innovations, details of accidents

The information provided should be such that an intelligent layman as well as the professional could readily interpret it in making his own assessment of the DLO's performance, but it should not expose confidential information to the detriment of the DLO's competitive position, and information should not be published that could be misinterpreted or distorted. For these reasons it would be sensible to exclude productivity information such as cost per productive standard hour, which is both commercially sensitive and susceptible to misrepresentation in comparisons with other authorities which may have different bonus schemes.

Where possible, comparisons of certain aspects of cost or performance could be compared with national or regional statistics using indices, such as cost per house maintained, maintenance expenditure as percentage of gross rents or total housing revenue account expenditure, trading surplus as a percentage of turnover, materials content as a percentage of total costs.

Shortly before completion of the final draft of this report, the Association of Metropolitan Authorities published its recommendations regarding the content of annual reports, "Direct Labour Organisation Model Annual Report" (Bibliography reference 27).

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Appendix 1
Sheet 1

MAINTENANCE SERVICE STANDARDS (EXAMPLES)
GLC RESPONSE TIME STANDARDS FOR DAY-TO-DAY REPAIRS

Operation	Frequency	Relationship to other operations or time allowed to complete operation
Emergencies (safety, security, health reasons)		Complete within 24 hours of notification to Works Manager or make safe if a long job. (Progress must be checked daily by Works Manager until completed).
Bricklaying repairs	Within 5 weeks (average)	5 weeks average programme but no repair jobs to be outstanding more than 8 weeks of issue of job ticket.
Carpentry repairs	Within 4 weeks (average)	4 weeks average programme but no repairs to be outstanding more than 6 weeks.
Plumbing repairs	Within 3 weeks	3 weeks average programme but no repairs to be outstanding more than 5 weeks.
Glazing renewals	Within 2 weeks	2 weeks average programme but no repairs to be outstanding more than 4 weeks.
Electrical repairs	1 to 2 weeks	Average programme but no repairs to be outstanding more than 3 weeks.
Space heating	3 days or as soon as possible	Average programme.
Miscellaneous	5 weeks	5 weeks programme.
Fencing repairs	5 weeks	5 weeks programme.

(These details are reproduced by courtesy of the GLC Housing Department)

EXAMPLES OF REPAIR WORK CATEGORIES

CATEGORY 1 - EMERGENCY REPAIR

Rectification period

To be rectified within 24 hours.

Types of faults

(i) Danger to persons or property

Potentially dangerous fault on electrical power or light circuit
Potentially dangerous fault in gas supply pipe
No lighting (excluding fuses which can be renewed by tenants)
Dangerous brickwork or dangerous structural fault
Falling gutter, slates or tiles
Insecure entrance door
Blocked drain or sewer

(ii) Unacceptable living conditions for young children and the elderly

Fault in supply or burst pipe leading to no heating, cooking, bathroom or toilet facilities for young children or the elderly.

CATEGORY 2 - URGENT REPAIR

Rectification period

To be rectified within 7 days

Types of faults

(i) Unacceptable living conditions for tenant and family

Fault in supply or burst pipe leading to no cooking, bathroom or toilet facilities or, in cold weather, no heating facilities.

(ii) Damage to property or potential injury to person if repair is not effected quickly

Penetration of rain water through roof
Leaking tank or internal water pipe
Leaking soil pipe
Tank overflowing
Underground leak
Broken or faulty electrical fitting
Broken or faulty sash cord
Rotten floor boards
Collapsed ceiling

(iii) Security of property

Defective lock
Broken window or window fastener

CATEGORY 3 - JOBBING OR CYCLIC REPAIR

Rectification period

To be rectified within 2 months.

Types of faults

All faults not included in Categories 1 and 2 which it is the Council's duty to rectify.

CATEGORY 4 - RECHARGEABLE WORK

Rectification period

As agreed with tenant

Types of faults

All damage to property which is to be recharged to the tenant.

Appendix 2
Sheet 1

HOUSING MAINTENANCE NOT UNDERTAKEN OR CHARGED TO TENANTS (EXAMPLES)

REPAIR ITEMS NOT CARRIED OUT

Door knockers, letter boxes, door numbers
Fencing and gates
Plugs and chains to baths, sinks, WC cisterns and wash hand basins
Cupboards, kitchen units and other built-in furniture
Door furniture, cupboard catches and drawer pulls
Shelves, hat and coat rails and hooks
Clothes racks and fittings to drying cabinets
Automatic gas fire ignition units
Internal glazing to doors and partitions
Renewal of ash pans

REPAIR ITEMS CHARGED

Reglazing except vandalism to homes of elderly or to metal frames
Blocked waste pipes to sanitary fittings and external gulley grids
Renewal of sanitary fittings not due to 'fair wear and tear'
Renewal of locks through loss of key
Renewal of firebottoms within three years of issue
Renewal of gas/electric elements within five years of issue
Renewal of dustbins within five years of issue
Electrical defects caused by tenants' misuse, eg wrong size fuses, overloading of circuit by extra appliances, unauthorised extensions to wiring, unauthorised fitting of immersion heaters

RECHARGEABLE ITEMS FOR IMPROVEMENT WORKS TO DWELLINGS

Supply and fix immersion heater complete with jacket
Supply and install 13 amp socket outlet
Supply and install coal bunker
Remove pantry, supply and fix wall cabinet and make good
Supply and install modern fireplace
Modern back boiler unit in lieu of existing
Remove tiled surround and make good
Fix wood surround (purchased by tenant)
Supply and install stainless steel sink unit
Supply and install patterned doors with flemish glass
Supply and fix external glass door, complete
Supply and fix low level toilet suite and make good
Supply and install cooker circuit (with control unit)
Supply and fix wall unit
Supply and fix floor unit
Supply and fix flush doors (internal)
Modernise existing windows (per sq ft)
Supply and fix cooker control unit only
Remove Parkray unit and replace with Baxi unit with teak surround
Take out fire, provide Parkray unit complete

CLIENT AND CONTRACTOR FUNCTIONS

CLIENT FUNCTIONS

Assess work needs (inspect and survey houses etc)
Receive work requests
Assess work priorities including emergencies
Liaise with Agent authorities and negotiate agreements
Liaise with statutory undertakers (where necessary)
Compile expenditure budget
Compile schedules and update
Prepare designs and specifications
Identify work to be tendered for
Send out contract documents
Assess tenders and award contracts
Issue works orders/instructions
Pre-inspect work
Authorise payments
Monitor expenditure against budget
Set quality standards and inspect work in progress
Monitor progress
Post-inspect work
Value work/check payment applications
Assess claims for contract delays and extra costs
Arrange recharges to other departments and public
Obtain prices from annual contractors) for direct contract work
Instruct annual contractors)
Inspect/administer public liability claims
Deal with public applications (sewer connections, footpath crossings, builders skips, etc)
Keep records of stock (houses, public buildings, offices)

CONTRACTOR FUNCTIONS

Assess workload for the year
Compile budgets for income and expenditure (cost)
Relate manpower to budgets
Receive orders for work
Pre-inspect work prior to estimate of cost and resources needed
Prepare prior estimates and price schedules
Obtain prices from sub-contractors
Instruct annual contractors
Programme the work
Plan the use of labour, plant and materials
Manage the labour force
Arrange hire of plant and transport
Control use of plant and transport
Purchase materials
Maintain stocks of materials
Issue materials
Carry out emergency work and assess disruption to normal work
Check quality of work
Check health and safety of working practices
Record physical progress
Monitor forward workload
  - work in progress
  - income
  - costs
  - bonus scheme
Administer - wages
  - bonus calculation and payment
Administer - stores
  - depots
  - welfare facilities for workforce
Monitor contract variations
Make claims for delays and extra costs
Train apprentices
Negotiate with trades unions

SERVICES PROVIDED TO DLO BY OTHER DEPARTMENTS

FINANCE DEPARTMENT

Wages calculation and payment(computer)
Income and expenditure reports (computer)
Valuation of assets
Preparation of annual accounts
Allocation of overheads

MANAGEMENT SERVICES

Development and maintenance of bonus scheme
Bonus administration (computer)

ADMINISTRATION DEPARTMENT (including LEGAL)

Reports to Works Committee
Administration for Works Committee meetings
Administration of standing orders (Tenders ?)
Legal advice (labour law, contract law)

PERSONNEL DEPARTMENT

Personnel administration including staff records
Staff welfare
Industrial relations
Staff training

APPENDIX 5
Sheet 1

AS-BUILT RECORD

Address 75 Laurel Road, NE99	Area code B Property unit code 6	As-built record 1 of 4

PROPERTY

Description	New build [✓ Rehabilitated] Acquired Short life
Date	1975
Type	[✓ Semi] Detached Terraced Maisonette Flat
Size (number of floors)	~~Basement~~ plus 1 [✓ 2] 3 4 5 6
Unit size	[✓ Lounge] [✓ Dining room] [✓ Kitchen] [✓ Hall] [✓ Stairs] [✓ Landing] [✓ Bathroom] Bedrooms [✓ 1] [✓ 2] [✓ 3] 4
Unit location	Basement [✓ Ground] [✓ First] Second Third Fourth Fifth Front Rear

CONTRACT

Architect/surveyor	A Brown 01-123 4567
Quantity surveyor	B Court 01-234 5678
Main contractor	C Davies 01-345 6789
Electrical sub-contractor	D Evans 01-456 7891
Gas sub-contractor	E Franklin 01-567 8912
Heating sub-contractor	" "
Dpc sub-contractor	F Green 01-678 9123
Timber treatment sub-contractor	G Homes 01-789 1234
Lifts sub-contractor	—
Other sub-contractor	—
Practical completion date	1 March 75
End of defects liability date	1 September 75

GUARANTEES

NHBRC	Ten years
DP treatment	Ten years
Timber treatment	Ten years
Others	Gas heating five years

Note

Items to be deleted and added as appropriate

APPENDIX 5
Sheet 2

Address 75 Laurel Road, NE99	Area code B Property unit code 6	As-built record 2 of 4

CONSTRUCTION

Type	[✓ Traditional] Rationalised traditional System built
Foundations	Brick footing Raft Pile and beam [✓ Concrete strip] Slab
DPC	Slate [✓ Felt] Injected Membrane
Walls	Thickness 275 mm [✓ Brick] Block Concrete Precast Insitu Prefab panels Rendered Pebble dashed Dry lined [✓ Plastered] Insulated Type of brick/block stock
Roof	[✓ Pitched] Flat Slate [✓ Tile] [✓ Plain] Interlocking Terra cotta Concrete Asbestos Felt Lead Zinc Asphalt Timber [✓ Sarking felt] 50mm loft insulation [✓ Timber] Steel battens Purlins [✓ Rafters] [✓ Trusses]
Chimneys	Number 2 Flues Parged Flaunched Concrete [✓ Brick] [✓ Lined] Capped Cowled
Ground floor	[✓ Solid] Suspended [✓ Screed] Chipboard T and G board [✓ Tiled] [✓ Thermoplastic] Cork Carpeted Terrazo
Upper floors	[✓ Suspended] [✓ Timber] Concrete [✓ Joists] Slabs Screed [✓ T and G board] Chipboard Tiled Thermoplastic Cork Carpeted Terrazo
Partitions	Brick [✓ Block] Studded Prefab [✓ Plastered] Dry lined Stooth and lath
Window frames	[✓ Standard] [✓ Soft wood] Hard wood Aluminium Steel Anodised Varnished [✓ Painted] Sash [✓ Hinged] Pivot hung
External doors and frames	[✓ Standard] [✓ Soft wood] Hard wood [✓ Painted] Varnished
Internal doors and frames	[✓ Standard] [✓ Soft wood] Hard wood [✓ Painted] Varnished
Fascias, soffits, bargeboards	[✓ Soft wood] Hard wood Pvc faced [✓ Painted] Varnished
Gutters	Cast iron [✓ Plastic] Ogee [✓ Half-round] Moulded Size 75mm Colour blk
Rainwater pipes	Cast iron [✓ Plastic] Size 50mm Colour black
Wastes	[✓ Plastic] Lead Copper Cast iron Size 32mm Colour black
Soil and vent	[✓ Plastic] Cast iron Size 100 mm Colour black
Sub floor air bricks	[✓ Front] [✓ Rear] Side
Above floor air bricks	Front [✓ Rear] [✓ Side] Larder and bathroom
Garden walls	[✓ Front] Side Rear Side [✓ Brick] Block Concrete Retaining Type of brick Stock
Fences	Front Rear ✓ Side ✓ [✓ Side] Concrete [✓ Timber] [✓ Post] [✓ Rail] Chain link Lapped Ranch Close boarded
External stairs	Concrete Timber Steel
Paths, drives	Flags [✓ Concrete] Asphalt Tarmac Gravel
[✓ Garage/store]	Concrete [✓ Brick] Block Timber Prefab

Note

Items to be deleted and added as appropriate.

Address 75 Laurel Road, NE99	Area code B Property unit code 6	As-built record 3 of 4

INTERNAL SCHEDULE (Finishes, fittings, fixtures)

		Room														
		Porch	Hall	Cloakroom	Lounge	Dining room	Kitchen	Stairs	Landing	Bathroom	Toilet	Bedroom 1	Bedroom 2	Bedroom 3	Bedroom 4	
Size metres	Length		3		4	3	3		2	3		3	3	3		
	Width		1		3	3	2		1	2		4	4	3		
	Ceiling		2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5	2.5		
Floors	Screeded		✓		✓	✓	✓									
	Boarded								✓	✓		✓	✓	✓		
	Tiled thermoplastic		✓		✓	✓	✓									
	Tiled terra cotta															
Walls	Plaster		✓		✓	✓	✓		✓	✓		✓	✓	✓		
	Paper				✓							✓				
	Emulsion paint		✓			✓	✓		✓	✓			✓	✓		
	Gloss paint															
	Tiles						✓			✓						
Ceilings	Artex		✓		✓	✓	✓		✓	✓		✓	✓	✓		
	Plaster															
	Paper															
	Emulsion		✓		✓	✓	✓		✓	✓		✓	✓	✓		
	Tiles															
Electrical	30 amp outlets						✓									
	13 amp outlets				2	2	2					2	1	1		
	Light fittings		1		2	1	1		1	1		1	1	1		
Gas	Supply taps															
	Cooker point						1									
Water	Hot water taps						1			2						
	Cold water taps						1			2						
Heating	Hot water radiators		1		1	1				1		1	1	1		
	Gas convectors															
	Gas radiant fires				1											
	Electrical storage heaters															
	Oil filled radiators															
	Electrical convectors															
	Electrical radiant fires															
	Electrical underfloor															
	Solid fuel radiant fires															
	Solid fuel convectors															
	Warm air outlets															
Fixtures and fittings	Bath									1						
	Wash basin									1						
	Shower															
	Lavatory									1						
	Sink						1									
	Cupboards		1				3			1						
	Wardrobes											1	1			
	Sink unit						1									

Note

Items to be deleted and added as appropriate

Address 75 Laurel Road, NE99	Area code 8 Property unit code 6	As-built record 4 of 4

SERVICES

Cold water supply	Stopcock position hall cup'd Size 22mm Storage tank position Loft Ballvalve 22mm Tank size 50 Gallons Header tank position Loft Ballvalve 15mm Tank size 6 Gallons Bibcocks, number and size Kitchen Bathroom Pillarcocks, number and size Kitchen 1 x 22mm Bathroom 1 x 15mm, 1 x 22mm Supataps, number and size Kitchen Bathroom Rising main route hall/stairs/bathroom/loft Copper ✓ ~~lead~~ Size 22mm
Hot water supply	Cylinder position bathroom Size 30 Gallons Direct Indirect ✓ Immersion heater size 300mm 3KW Bibcocks, number and size Kitchen Bathroom Pillarcocks, number and size Kitchen 1x22mm Bathroom 1x15mm, 1x22mm Supataps, number and size Kitchen Bathroom
Boiler	Domestic hot water ✓ Central heating ✓ Gas ✓ Oil Solid fuel Electrical Manufacturer Jones (back boiler to lounge fire) Model 100XL Output 40,000 BTU Serial number 3653 Maintenance contract E Franklin
Heating controls	Room thermostat ✓ Location hall Model Smith 96 Pump ✓ Location hall cup'd Model Smith 97 Timing control ✓ Location hall Model Smith 95
Gas supply	Main tap position hall cup'd Meter position hall cup'd
Electricity supply	Consumer unit position hall cup'd Fuses ✓ Circuit breakers Meter position hall cup'd Prepaid Credit ✓ Main switch position hall cup'd Ring main 4 Radial circuits 2
Sanitary fittings	Lavatory pan Syphonic Splashdown ✓ P trap S trap ✓ Colour white WWP Syphonic Coupled Panel ✓ System HP LP ballvalve ✓ Basin Trap 32 Hot water supply 15 Cold water supply 15 Colour white Bath Trap 32 Hot water supply 22 Cold water supply 22 Colour white Sink Trap 32 Hot water supply 22 Cold water supply 22 Colour white
Drainage	Surface water inspection chamber } combined Side ✓ Back ✓ Front Foul water inspection chamber Side Back Front Main sewer foul water Side Back ✓ Front Main sewer surface water } combined Side Back Front

Note

Items to be deleted and added as appropriate

CONDITION RECORD CARD

Inspection checklist

Address 7c Hickman Road, E99

Number 2

Date 1/3/78

By J Smith

Management area code B

Property code 5

Key
✓ Immediate repair required
x Maintenance required but can be deferred
o No action necessary

General schedule - internal	Floor finishes	Ceiling damage	Ceiling decoration	Wall damage	Wall decoration	Window glass	Window frame	Window catches	Door	Door frame	Door hinges	Door handles	Door locks	Fitted units	Locks and catches	Light pendant	Light switch	Socket outlets	Fire	Convector	Radiator	Leaks	Roof space insulation	Excessive condensation	Timber decay	
Roof void																										
Bedroom 4																										
Bedroom 3																										
Bedroom 2	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
Bedroom 1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
Toilet																										
Bathroom	o	o	o	o	o	✓	x	✓	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
Landing																										
Stairs																										
Kitchen	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
Dining room																										
Lounge	o	o	o	o	o	o	o	o	o	o	o	x	x	o	o	o	o	o	o	o	✓	✓	o	o	o	
Cloakroom																										
Hall	o	x	x	o	x	o	o	o	o	o	o	o	o	o	o	o	✓	o	o	o	o	o	o	o	o	
Porch																										

APPENDIX 6
Sheet 2

General schedule – external		Front elevation	Side	Side	Rear	Fittings, assemblies and services			Fittings, assemblies and services			Additional notes
External walls	cracks	o	x	o	o	Basin	cracks	o	Cylinder	fixing	o	Sink waste and lavatory wwp instructed 2/3/78 J Smith
	printing	o	✓	o	o		fixing	x		pipework	o	
	rendering	o	o	o	o		taps	o		insulation	o	
Window frames	damage	o	o	o	o		supply	o	immersion heater		o	
	paint	x	x	x	x		waste	o	Boiler	fixing	o	
Doors	damage	o	o	o	o	Bath	cracks	o		pipework	o	
	paint	x	x	x	x		fixing	o		flue	o	
Door frames	damage	o	o	o	o		supply	o		controls	o	
	paint	x	x	x	x		taps	o		assembly	o	
Fascias	damage	o	o	o	o		waste	o	Electricity	meter	o	
	paint	x	x	x	x	Sink	cracks	o		consumer unit	o	
Soffits	damage	o	o	o	o		fixing	o		main switch	o	
	paint	x	x	x	x		supply	o		visible wiring	o	
Bargeboards	damage	o	o	o	o		taps	o	Water	rising main	o	
	paint	x	x	x	x		waste	✓	operation of stopcock		o	
Gutters	damage	o	x	o	o	Wc pan	cracks	o	Gas	meter	o	
	paint	x	x	x	x		fixing	o		main tap	o	
Rainwater pipes	damage	o	x	o	o		flush tube	o				
	paint	x	x	x	x		trap	o				
Soil & vent pipe	damage	o	o	o	o		soil	o				
	paint	x	x	x	x	Wwp	operation	✓				
Roof covering		o	o	o	o		supply	o				
Roof flashings		o	o	o	o		fixing	✓				
Chimney		o	o	o	o		ball valve and overflow	✓				
Garden	walls	o	o	o	o	Cold water tank	fixing	o				
	fences	x	x	x	x		supply	o				
Garage	walls	o	o	o	o		insulation	o				
	roof	o	o	o	o		ball valve and overflow	o				
Store	walls	o	o	o	o	Expansion tank	fixing	o				
	roof	o	o	o	o		pipework	o				
Drains	blocked	o	o	o	o		insulation	o				
	damaged	o	o	o	o		ball valve and overflow	o				
Inspection chambers	silted	x	o	o	o			o				
Cover	damaged	o	o	o	o			o				

Key

✓	Immediate repair required
x	Maintenance required but can be deferred
o	No action necessary

APPENDIX 7

EFFECT OF GEARING ON COST PER PRODUCTIVE STANDARD HOUR (EXAMPLE)

Assumptions: Basic rate = bonus calculator rate = £80 per week.
Hours spent on productive work = 35 hours per 40-hour week.
Scheme A : straight line proportional : 75-100-125.
Scheme B : linear, geared down by one third : 50-100-150.

1. Performance (BSI)		50	75	100	125	150 *
2. Bonus percentage	A	0	0	33.33	66.67	100.00*
	B	0	16.67	33.33	50.00	66.67
3. Standard hours produced (1) x (35)/(100)	A) B)	17.5	26.25	35.00	43.75	52.50
4. Bonus hours earned (2) x (35)/(100)	A	0	0	11.67	23.33	35.00*
	B	0	5.83	11.67	17.50	23.33
5. Bonus earned (4) x £2.00	A	0	0	23.34	46.66	70.00*
	B	0	11.66	23.34	35.00	46.66
6. Total wage cost £80 + (5)	A	80.00	80.00	103.34	126.66	150.00*
	B	80.00	91.66	103.34	115.00	126.66
7. Cost including overheads @ 120%	A	176.00	176.00	227.35	278.65	330.00*
	B	176.00	201.65	227.35	253.00	278.65
8. Cost per PSH (7)/(3)	A	10.05	6.70	6.50	6.37	6.29*
	B	10.05	7.68	6.50	5.78	5.30
9. Cost expressed as an index based on performance 100	A	155	103	100	98	97 *
	B	155	118	100	89	82

Note: Figures with an asterisk (*) would not be achieved in practice because bonus is normally cut off at 66.67 percent, but they do demonstrate the mechanics of the straight line proportional scheme.

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